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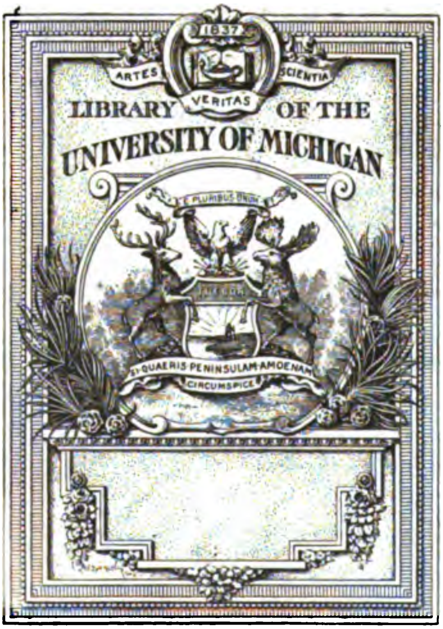
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ANNUAL REPORTS

OF

THE PRESIDENT AND THE TREASURER

OF

HARVARD COLLEGE

1902–03

CAMBRIDGE, MASS.
Published by Harvard University
JANUARY 30, 1904

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PRESIDENT'S REPORT FOR 1902-03.

To the Board of Overseers: —

The President of the University has the honor to submit the following report for the academic year 1902–03, — namely, from September 25, 1902, to October 1, 1903.

Arthur Lincoln, a member of the Board of Overseers, died in Boston on the 10th of December, 1902, in the sixty-first year of his age. He had been elected in 1901 to fill a vacancy in the class elected at Commencement, 1900. He was a judicious and earnest man, a much-trusted lawyer, and a disinterested servant of many public interests, charitable, educational, and religious.

Henry Barker Hill, Professor of Chemistry, died in Cambridge on the 6th of April, 1903, in the fifty-fourth year of his age. As a teacher Professor Hill inculcated accurate thinking, thoroughness in work, and enthusiastic industry. As an investigator he exacted of himself and of all his assistants perfect candor, a demonstrated accuracy, and a high degree of finish. His publications always had these fine qualities, and on them rests his firm and wide reputation as a chemist. As an administrative officer he displayed decided capacity for business, inventive power in contriving new facilities for the students who thronged Boylston Hall, and a gift for inspiring others with something of his own devotion. Although he was a scientific specialist in every sense, he was not a narrow student, but a man of varied interests, and of serious attainments in music and literature as well as in science. He was modest and retiring, yet resolute and brave for the truth.

George Haven, Instructor in Gynaecology, died in Boston on the 27th of September, 1903, in the forty-third year of his age. He was Assistant in Obstetrics from 1894 to 1897, and Instructor in Gynaecology from 1895 to his death. He early

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selected obstetrics and gynaecology as his specialty, and in 1887 began practice in Boston, where he served in the Dispensary, the Lying-in Hospital, and the City Hospital. Strong, refined, wise, and tactful, he demonstrated the value of his specialty at a time when its importance was often doubted. His skill in diagnosis and in operating had already given him a valuable practice, and his professional success gave weight to his teaching.

The death-rate in the University is remarkably low. Thus, there were three deaths in the year 1902–03 among the 632 persons who were members of the Governing Boards and the University staff, being only 4.7 in 1,000. Among the 4,261 students in the University in that year, excluding members of Radcliffe College and the Summer Courses, there were ten deaths, being 2.34 in 1,000. How great a reduction in the death-rate may be hoped for in civilized countries from the development of general intelligence, the progress of medical science and particularly of preventive medicine, and the enforcement of wholesome conditions of life, may be inferred from a comparison of the above statistics, with the following death-rates in 1900 of certain classes of males in the City of Boston: —

Males 15–20 years	5.71 per 1000
" 20–25 "	8.13 " "
" 25–30 "	9.79 " "

The members of Harvard University are more intelligent than the average of the population; with a few exceptions they take advantage of all existing medical knowledge and skill; and they live under more wholesome conditions than those of the people at large. Hence their low death-rate in comparison with that of average men of like ages.

Four professors in the Medical School resigned in 1902–03, — an unusual occurrence in a single year. Professor Franklin Dexter began his service to the School in the Department of Histology, where he was Instructor in 1884–85; but he gave the last ten years to the Department of Anatomy, as Demonstrator from 1893 to 1895, as Assistant Professor from 1895 to 1900, and as Associate Professor from 1900 to 1903. He gave himself with such conscientiousness and energy to the work of teaching human anatomy and of supervising the dissecting-room, that he had no time for the medical research he preferred; and it was dissatisfaction with that condition of things which prompted his much-regretted resignation in the prime of life.

Professor Frank Winthrop Draper began to teach Legal Medicine as Lecturer in 1875; in 1884 he was made Assistant Professor, and in 1889 Professor of the same subject, which he has therefore represented in the Medical School for twenty-eight years. To his teaching he brought the results of wide reading and of long experience as a practitioner and a Medical Examiner. He often served as the chairman of committees; and the Faculty always felt sure that a piece of work so intrusted to him would be well and promptly done.

Professor Charles Burnham Porter came to an Assistant Professorship of Clinical Surgery in 1882, and the Professorship in 1887, from hard and successful service as Assistant Demonstrator (1867–68) and Demonstrator (1868–79) of Anatomy. He was an inventive, skilful, and assiduous teacher, always eager to advance the interests of his department, and to develop his subject in a clear and interesting way. His resignation was determined by the fact that he had reached the age limit of service on the surgical staff of the Massachusetts General Hospital.

Professor Oliver Fairfield Wadsworth had given twenty-three years of continuous service to the School, the first ten (1881–91) as Clinical Instructor in Ophthalmoscopy, and the last thirteen as Professor of Ophthalmology. He taught a limited though indispensable specialty without narrowness and with good judgment as well as skill, and had the satisfaction of seeing his specialty recognized as more and more serviceable to the community at large and particularly to the progress of medical diagnosis and treatment.

The Faculty of Arts and Sciences contained 132 members in the year under review. Its business is done, in good part, by committees; and service on one or more of these committees is expected from time to time of nearly all of the members of the Faculty. This administrative work is often a considerable burden on members who want all their time for scholarly work and for teaching. It is therefore an interesting question whether it be possible to reduce the number of Faculty committees and the number of members on each committee without impairing the efficiency of the body. This measure would necessarily involve giving more power and responsibility to the officers of the Faculty, — the deans, secretaries, and recorders.

The Faculty devoted much time between the first of December and the middle of May to the discussion of the Tabular View, or schedule of lecture hours; but the discussion led to no improvement of the schedule, and indeed to no action at all. The Tabular View affects the personal habits of every teacher as well as of every student, and it reflects tenacious opinions on a considerable variety of subjects. Thus, it seems to many members of the Faculty very undesirable to put later in the day than half-past two any lectures which are attended by large numbers of students, lest the freedom of the students to engage in athletic sports should be interfered with. The afternoon hours, in general, are avoided by large numbers of students and by a large proportion of the teachers. Some professors think they cannot teach in the afternoon; and to some a lecture hour earlier than ten in the morning seems impossible; while others are ready to teach in any part of the day so their public work be concentrated in a few consecutive hours on two or three days of the week and not scattered through the day or the week so as to break up their time. Some members of the Faculty think that an unsymmetrical arrangement of the three hours a week given to a full course is extremely disadvantageous both to the students and to the teacher; while others are indifferent to this symmetry. In the Scientific School the choice of the student lies, in large part, between programmes and not between single courses; so that a large proportion of the subjects which make up each programme is practically prescribed to the student. These prescriptions can be conformed to under the existing Tabular View, although with much inconvenience. Any considerable departure from the existing schedule would probably cause serious difficulties for the student of that School, or necessitate numerous readjustments of its programmes.

The conflict of opinions and wishes in the Faculty was so confused that no affirmative action could be taken. All motions made during the discussion were either rejected or withdrawn. The evils of the present Tabular View, therefore, remain without remedy. The attempt to use the hour from 7.45 to 8.45 A.M. has failed; and all the lectures in arts and sciences have to be compressed into the seven hours from nine till one, and from half-past one till half-past four. The result is an injurious interference with the liberty of choice of the individual student among the courses which are nominally open to him. This interference is all the greater because the afternoon hours, particularly the hours from half-past one to half-past two and from half-past three to half-past four, are but scantily occupied. The limitation of choice for the student is not the only difficulty with the present Tabular View. The fact that only seven hours a day are used for lectures limits the successful development of departmental instruction by making it difficult to find available hours for new or improved courses. A new course on the History of Religions or on Music, for example, may find itself in disastrous conflict at half-past two on Mondays, Wednesdays, and Fridays with more than thirty other courses at the same hour of the same days.

The desire to keep the hours from half-past three to six free from lectures for the sake of athletic sports and other out-of-door exercise is in conformity with that general usage in the community at large, which prescribes the earlier hours of the day for work and the later for recreation; but it is clearly not expedient that all the members of the University should endeavor to take their exercise at the same time. It is quite impossible to provide grounds, buildings, boats, and other apparatus adequate for four thousand students, if they are all to take their exercise simultaneously within two hours and a half. The desirable thing is to spread the use of these grounds, buildings, and apparatus over the whole day, and to cultivate among the students the utmost variety of habit in regard to the time of day for bodily exercise. It is all a matter of habit at what hour of the day open-air exercise may be enjoyed. In warm climates the early morning or the evening is the only available time; in temperate climates any hour of the day is available for young persons, except the hours immediately after eating. The same is true about the habit of mental work, — a habit of using any hours of the day or night may be cultivated. At the continental universities of Europe all hours are utilized for lectures, from seven in the morning till seven at night, without objection on the part of either professors or students. Here, certain blocks of courses occupy four morning hours of Monday, Wednesday, and Friday, or Tuesday, Thursday, and Saturday, and have a preference among the students because they occur at these favorite hours. A motion to give each full course two morning hours and one afternoon hour was defeated in the Faculty by a large majority (52–20), in spite of the fact that it would have put all courses on a level as regards desirability of position on the Tabular View. The main arguments against this plan were the lack of symmetry in the hours of each course, the interference with the afternoon freedom which would be caused by carrying into the afternoon even a single hour a week in numerous large courses, and the doubt whether this arrangement would much enlarge the individual student's freedom of choice. No other definite proposal for the improvement of the Tabular View was made during the long discussion; and the congested condition of the Tabular View remains the one unsurmounted difficulty in the administration of the broad elective system of Harvard College. It is, of course, the multiplication of courses and the richness of the departmental offerings which have created the difficulty.

The system of Final Honors at graduation, which was instituted by the Faculty in 1867–68, enlarged in 1870–71, and maintained ever since with slight modifications, has never been successful. Final Honors have never been sought by any significant portion of the graduating class, and have never really affected, in any large measure, the scholarship of the College; although a moderate number of individuals of high merit have taken them. The departments which now make most use of Final Honors are the Classics, English, History, Political Science, Philosophy, Music, and Chemistry; but the total number of persons taking Honors during the last six years has been but small.

	1897–98.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.
Highest Honors	4	3	3	3	5	7
Honors	12	14	6	13	15	17
Total	16	17	9	16	20	24

Final Honors were intended, first, to promote a reasonable degree of specialization by departments, and, secondly, to promote scholarship by large subjects as distinguished from success in single courses. The fact seems to be that other academic distinctions at graduation have been preferred to Final Honors, particularly the A.B. *summa cum laude* or *magna cum laude.*

Students who have satisfied the requirements for the degree of Bachelor of Arts at the end of three years have been in the habit of asking leave of absence from the College, and postponing for one year the taking of their degree, so that their names could stand in the Quinquennial Catalogue in the class with which they entered College. In order to do away with this artificial leave of absence, the Corporation, on June 1st, at the suggestion of the Faculty, determined that a student who satisfies the requirements for the degree of Bachelor of Arts at the end of three years shall be permitted to have his name entered in the Quinquennial Catalogue under the fourth year from his entrance, the date of the year in which the degree was actually conferred being entered in the Quinquennial against his name. Such students can enter the professional schools of the University immediately after graduating in Arts, without asking of the schools any exceptional treatment, such as had to be vouchsafed to all Seniors on leave of absence. (Compare the report of the Dean of Harvard College, p. 96.)

In October, 1902, the Faculty recommended to the President and Fellows, by a large majority, that they confer degrees about the middle of the academic year as well as at the end. The President and Fellows did not think it expedient to have any ceremony of conferring degrees in the middle of the year; but they expressed their willingness to confer any degrees which in the opinion of the several faculties had been earned in the middle of the year, the diplomas thereof to be sent by mail or otherwise delivered from the offices of the several deans.

In November, 1902, on motion of the Dean of the Lawrence Scientific School, the Faculty voted that harmony be accepted as an approved entrance study for admission to that School, to count for two points. In the following January, on motion of Professor Paine, the Faculty voted that music be added to the list of studies for admission to Harvard College — harmony as an elementary study counting two points, and counterpoint as an advanced study counting two points. At the next meeting of the Faculty, counterpoint, counting two points, as an advanced study, was added to the list of studies for admission to the Scientific School. The subject of music thus obtained for the first time full recognition as an admission subject for entrance to an American college and an American scientific school. This action ought to have, within a few years, highly beneficial effects on the study of music in the secondary schools. It is, of course, only a return to the recognition of music as a culture subject originally given centuries ago in the earliest curricula for the baccalaureate.

The Dean of the Faculty of Arts and Sciences calls attention in his Report (p. 89) to the large number of interesting new courses which were authorized in 1902–03 for the academic year now current. This expansion was made possible by the large number of new appointments made in that year and the current year. The new appointments and promotions were, in fact, more numerous than prudence would have prescribed; but they permitted a considerable expansion and elevation of the instruction offered by this Faculty.

The attention of the Board of Overseers is invited to the remarks of the Dean of the Faculty (p. 90) on the relation of the Harvard admission examinations to the examinations conducted by the College Entrance Examination Board, a board which was originally organized for the benefit of the Middle States and Maryland, but whose work is now much more widely accepted.

One of the best pieces of work done by the Faculty of Arts and Sciences during the past year was the simplification of the arrangements for admitting Bachelors of Arts to candidacy for the degree of Masters of Arts in the Graduate School. The change did away with the necessity of undertaking to rate Bachelors from other colleges in terms of the Harvard requirements, without lowering in the least the standard for the Master's degree. The ordinary requirement for that degree for graduates of any college or scientific school of good standing consists of at least one year of residence and study devoted to advanced work approved by the Administrative Board, on a plan of work pursued with some definite aim, though not necessarily lying wholly in one department or field. A large increase in the Graduate School followed this year immediately on this new legislation, but almost too quickly to have been really caused by it.

It appears from the Report of the Dean of Harvard College (p. 98) that the tendency at Harvard to complete the work for the degree of Bachelor of Arts in three years is strong, but that a large proportion of the men who abbreviate the College course go on with professional studies, either here or elsewhere. At the present rate of increase in the number of three-year men it will not be long before the majority of each entering class will obtain the degree in three years. A related fact is that the Senior classes are diminishing in number, so that the College as a whole would suffer a considerable loss of fees were it not that the other classes are gradually increasing in size.

It will be seen in the tables (pp. 99, 100) of the Dean's report that all the College classes lose many members each year — or, in other words, that many persons fall out of College by the way and fail to graduate, and that the net loss in the various classes is increasing. It is certainly no easier to stay in Harvard College than to enter it. Indeed, the percentage of eliminations is much larger within the College than it is at the entrance examination. Yet in spite of the publication year after year of the heavy losses of the successive classes, it is still a common belief that few young men who succeed in entering Harvard College fail to graduate. The fact is that there is a severe winnowing process all along the course. Thus in the course of the year 1902–03, or at its end, sixty-eight young men left the Class of 1906; and sixty-six young men left the Class of 1905. These two classes numbered respectively 608 and 578; so that in both the loss was more than eleven per cent. in a single year. In addition, a considerable number of men from each of these classes were dropped to a lower class (see p. 99).

Three sorts of schools send pupils to Harvard College — public schools, academies and other endowed schools, and private schools; and, as a rule, two hundred or more schools contribute the six hundred or more persons who enter the various College classes in any one year. About 30 per cent. of these six hundred or more persons come from public schools; and these 30 per cent. can readily be compared, in respect to their success at the admission examinations, with those who enter from the other two sorts of schools. The percentages given in the table below were made up from the records, at the admission examinations of last June, of boys who came from schools which have sent at least one boy to Harvard College in each of the last three years. There were thirty-nine such high schools, of which twenty sent not more than two boys each into Harvard College last June.

	Honors (Grade *A* or *B*).	Unsatisfactory (Grade *D*).	Failures (Grade *E* or *F*).	Total No. of Answer-books.
	Per cent.	Per cent.	Per cent.	
Public High Schools . .	16	36	15	1,217
Academies and Endowed Schools	12	37	22	866
Private Day Schools . .	11	39	21	585

It appears from this table that the candidates who came from public high schools were decidedly the most successful at the admission examinations. Dividing the academies and endowed schools into two classes — the academies like Phillips Andover or Phillips Exeter, and the boarding-schools like St. Mark's School or the Hotchkiss School — the following comparison results: —

	Honors (Grade *A* or *B*).	Unsatisfactory (Grade *D*).	Failures (Grade *E* or *F*).	Total No. of Answer-books.
	Per cent.	Per cent.	Per cent.	
Academies	13	38	21	559
Boarding Schools	9	35	24	307

This second table shows that candidates from academies did a little better than candidates from the other boarding schools, but that both sets of schools were less successful than the public high schools. Many inquiries of this sort might be made within the College itself. For example, in June last 172 men took the degree of Bachelor of Arts with distinction. Of these, eighty-four came to College from public high schools, forty-four from academies and endowed schools, thirty-two from private schools, and twelve from other colleges. Again the honors belong to the public schools.

These facts are limited to the year under review, and are based on observation of only about seven hundred persons. So far as they go, however, they lend no countenance whatever to the allegation that the public schools turn out a less vigorous and conscientious class of young men than the other schools. On the contrary, so far as they go, they tend to prove that the product of the public school has more character and power of work than the product of the other schools. It is probably true that the public school boy has stronger inducements to exert himself than the other boys have; but that is one of his advantages, which is likely to serve him well till maturity and beyond.

As might be expected from the increase in the requirements for admission to the Lawrence Scientific School, it has now become much easier than it used to be for students to pass from the College to the Scientific School, or from the Scientific School to the College, and even to count an admission examination for either the College or Scientific School. The present condition seems to indicate that the Scientific School courses in General Science and for Teachers of Science may disappear before long, the real function of these courses being assumed by the College.

The large fluctuations in the percentages of failure at the admission examinations, both in elementary and in advanced subjects, continue to cause anxiety as to the good judgment with which the questions are written and the answers of the candidates examined. In subjects which are offered by very few candidates large fluctuations in the percentages of failure are to be expected; but in subjects which are offered by many candidates wide fluctuations ought not to occur (see p. 103).

The Dean of Harvard College urges strongly that the present number of scholarships with stipend is far too small, and in particular much smaller in proportion to the number of students than it was twenty years ago (p. 109). This may be one of the reasons why the growth of the College proper during the past ten years has not been more significant (25 per cent.).

The Dean of the Lawrence Scientific School (p. 112) reports with satisfaction that the examinations for admission to the Scientific School have now been brought to a level with those for admission to Harvard College, so far as the relative weights of the different subjects can be estimated. A greater variety of subjects may be offered for admission to the Scientific School than are counted for admission to the College; but the amount of work required of candidates for either undergraduate department is now supposed to be the same as for the other. It is a subject for congratulation that the growth of the Scientific School has been but slightly checked by the great increase in its admission requirements,—a fact which indicates that the young men who aspire to the scientific professions, and their parents also, appreciate the importance of a thorough preparatory training.

More and more students go first through Harvard College and then seek the degree of Bachelor of Science, giving for the degree in Science an additional residence of one or two years. Transfers between the two undergraduate departments are regarded with favor by both the Deans.

A programme in Forestry was added in the Scientific School during the year 1902–03, the instruction to begin in the year now current. It is proposed to create gradually a four years' course in Forestry, and to provide, step by step, all the technical instruction in that subject which will be needed to give a thorough training for the profession. The establishment of this course illustrates once more the intention of Harvard University to provide suitable training for every intellectual pursuit, and therefore to feed every profession. No field of knowledge, and no province of art or skill, must be foreign or strange to the University. It distinctly proposes to deal with all knowledges, and all arts which are not narrowly manual — and indeed with some of the arts in which highly trained senses and bodily skill play a large part, such as surgery, music, and drawing.

The Summer Courses in Arts and Sciences for six weeks beginning July 5th have become an important part of the function of the University. The attendance at Cambridge has rapidly increased for ten years past, in spite of the fact that many new summer courses have been established at other institutions: —

Year.	No. of Students.	Year.	No. of Students.
1894	505	1899	856
1895	575	1900	987
1896	617	1901	982
1897	718	1902	945
1898	759	1903*	1,391

A list of the departments in which courses of instruction have been given in recent years and of the registration in each department will be found in the Appendix (p. 330). The University is under great obligations to Professor Shaler for the energy and good judgment with which, as Chairman of the Committee on Summer Courses, he has conducted the novel and exacting business of the committee.

The Dean of the Graduate School points out (p. 123) that there are striking differences between the membership of that School and the membership of other professional schools which accept as members only persons who already hold a Bachelor's degree. In the latter schools a large majority of the first-year men are fresh from college; but in the Graduate School only about 32 per cent. of the first-year students entered the School in 1902–03 immediately after receiving their first degree in arts or science. The rest are one, two, three, or more years out of college. In the year under review 30 per cent. of the first-year students had received their first degrees four or more years before entering the Graduate School. Moreover, in the Graduate School a little more than half the students remain but one year. Many of them have pursued graduate study elsewhere before coming to Harvard.

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* Year of the meeting of the National Educational Association at Boston, July 6–10.

The Dean calls attention to the fact (p. 120) that the School is prepared to serve ministers, teachers, professional men, or men of affairs, who can afford to give a part of their time to study. The corresponding remark might be made about the Divinity School and the Medical School. Such universities as Berlin, Paris, and Vienna render large services to their respective communities in just this way. Among the two millions of people within easy reach of Cambridge there ought to be hundreds of competent persons who could avail themselves of the teachings of the University in some one department for a part of their working time.

It clearly appears in the Dean's report that the excellent German custom of migrating from one university to another in search of advanced instruction is establishing itself in the United States. It is a liberalizing and unifying custom, which promotes a good understanding, common sympathies, and serviceable fellowship among educated men in all parts of the country.

The ages at which young men are taking the degrees of Master of Arts, Master of Science, and Doctor of Philosophy at Harvard University are still deplorably high. A young man who has come steadily on through all the grades of his education ought to procure the degree of Master of Arts with ease by the time he is 23 years old. Of the 94 men who took that degree at Commencement, 1903, 12 were under 23, 16 were 23, and 66 were over 23. Of these 66, 35 were over 28. The degree of Doctor of Philosophy ought to be easily taken by the age of 25. Last June, of the 28 men who received the degree of Doctor of Philosophy, 2 were under 25, 4 were 25, and 22 were over 25. More than half the candidates were over 28. These figures show how irregular, broken, and often belated the higher education of young Americans in arts and sciences still is. The candidates for these degrees, as the Dean of the Graduate School points out (p. 139), are often men who come to the University for a year or more of study after having been for several years engaged in active pursuits.

There is need of a new name for the Graduate School; because the schools of divinity, law, and medicine have all become schools open only to holders of a Bachelor's degree. They too are graduate schools in every sense; and they naturally feel that the appropriation of the term "Graduate School" to the advanced school of arts and sciences is misleading with regard to their own quality. Not only are the schools of divinity, law, and medicine graduate schools, but they lead on their students to the professional degree in a more regular and uniform manner than the Graduate School of Arts and Sciences has as yet been able to do; and their examinations for their respective degrees are as searching as those for the higher degrees in arts and sciences.

The Dean of the Divinity School (p. 154) reports that the School had in 1902–03 a larger staff than ever before, and that it is more and more successful in training ministers on a scientific method.

The very favorable recent experiences of the School in the management of its dormitory suggest that the Law School and the Graduate School might advantageously use buildings for the exclusive occupation of their own students. Divinity Hall differs from all the other dormitories in that it provides a common-room as a meeting place for all occupants of the Hall. The remarks of the Dean under this head (p. 155) should interest the administrative officers of the other schools.

The relations of the School with the Graduate School and the College become more and more intimate, — a natural result at Harvard University, considering that the chief object in view when the College was founded was the education of ministers. Philosophical, historical, sociological, and linguistic studies are appropriate to all three departments.

Another noticeable feature in the new development of the Divinity School is the resort to its instruction of men who have already spent some years in the ministry. These mature students are in part settled ministers, who live within reach of Cambridge, and can give a part of their time to study at the

University. Others are ministers who procure a year's leave of absence for the purpose of attending the University. The Summer School of Theology affords a short course of study for ministers who can only be away from their churches during part of a summer vacation. The two professions in which transformation and progress have been the most rapid during the last fifteen years are theology and medicine; and it is interesting to observe that in both these professions young men who have already been at work some years find it desirable to return to the University in search of the new knowledge and the new skill. It is also to be observed that these two professions, in which both their philosophies and their practices have been recreated within recent years, are the altruistic professions in which may best be combined the two passions most characteristic of the present generation, — the passion for truth and the passion for service.

The number of students at the Law School did not change much between 1900 and 1903, a fact which encouraged the Corporation and the Faculty to wait for the additional building which the School needs for the proper accommodation of its library; but a large increase in the number of students at the opening of the present year indicates that the construction of the new building ought not to be much longer delayed, particularly as all processes of construction nowadays are liable to be slow and embarrassed. An examination of the table in the Dean's report (p. 164), which exhibits the irregular growth of the School, shows that in the thirty years from 1870–71 to 1900–01 the number of students was multiplied by four, in the thirty years from 1873–74 to 1903–04 by five, and in the ten years from 1893–94 to 1903–04 by two. Some of the retrogressions are fully accounted for by changes in the regulations of the School and the advancing of its standards; but it is not possible to account for several of the sudden increases in the number of students. The gains have often taken the Faculty by surprise, as, for instance, in 1891–92, in 1895–96, in 1897–98, and in 1903–04. The Dean undoubtedly states accurately the cause of the remarkable development of the School since 1870–71, — "a spreading confidence in our standards and methods as illustrated by our graduates."

Since the Divinity School and the Law School became strictly graduate, their Faculties have felt a good deal of dissatisfaction with the degrees they confer. A second Bachelor's degree is not so unmistakably the degree of a graduate school as a Master's or a Doctor's degree. The attention of the Overseers is invited to the remarks of the Dean of the Law School (p. 168) on this subject.

The year 1902–03 was a very interesting one for the Medical School. Financially it was a bad year; for the running expenses of the School outran its receipts by $13,868.73. This serious deficit was due in part to the progressive reduction of the number of students in the School, caused by the requirement of a degree for admission, but in part also to a habit of somewhat extravagant expenditure for assistants, service, and supplies. This deficit, together with the certainty that there would be a further loss of tuition-fees during the year now current, made it necessary to reduce for the current year the salaries of a considerable number of instructors and assistants, and to curtail expenditure in various other directions.

Near the end of June the plans and estimates for the new buildings having been completed, and the transactions with the trustees of the several hospitals, which are to occupy the portions of the original tract purchased on Huntington and Longwood Avenues that the Medical School will not need, having been satisfactorily closed, the Corporation decided to begin the construction of the buildings if satisfactory bids could be procured. After a delay of two months the contract was signed with the Norcross Brothers Company for the construction of all five buildings with an exterior of marble, the work to be done within twenty-three months, barring delays from strikes. During the summer a new benefactor became responsible for the fifth building, and paid in towards its construction the sum of $100,000. The contractors began work in September; and during the autumn much digging and grading have been done, concrete foundations to a large amount have been put in, and some stone has been set on the two smaller buildings.

It was a condition of the gift of Mr. John D. Rockefeller that it should be paid in proportion to the payments made on the $765,000, on the raising of which Mr. Rockefeller's gift was conditioned, and that his pledge should not hold after January 1, 1904. Because of the unexpected delays in beginning construction, payments on Mrs. Huntington's gift of $250,000, which made part of the $765,000, were not likely to begin before the first of January, 1904. To overcome this unexpected difficulty in the Medical School Undertaking Mr. Rockefeller extended the limit of his pledge to the first of July, 1904.

The building part of the Medical School Undertaking is therefore well under way on plans which have been studied and restudied with great care and in every detail. A list of the funds pledged to the Medical School Undertaking and already in hand will be found in the Treasurer's Statement (pp. 56, 57). They amount to $1,809,712.49, without counting Mr. J. Pierpont Morgan's gift of $1,135,000, or Mrs. Collis P. Huntington's gift of $250,000, on which no payments had been received up to the close of the financial year, since the construction of the buildings had not then been begun.

One urgent need of the Medical School has not been provided for by any of the recent gifts, — the need of a dormitory with a common-room and restaurant attached.

The report of the Dean of the Medical School (p. 171) shows in a striking way the objects for which these great new buildings are being prepared. The Medical School has become a place of active and varied medical and surgical research, as the Dean's list of researches made in the various departments abundantly proves. Hence the need of large laboratories supplied with every appliance which can facilitate, or make more fruitful, such researches. It is the hope of beneficent results from medical and surgical research that has made it easy to procure large gifts to the Medical School. Rich men who have intelligent imaginations see that there is a fair prospect of obtaining in medical laboratories great benefactions for the human race.

The Faculty desires to procure for work at the School the whole time of members of the fourth-year class. At present a large number of members of that class are in service at hospitals, and can give only a portion of their time to the work of the School; and they have accordingly been charged one hundred dollars instead of two hundred dollars for the year's fee, and a graduation fee of thirty dollars. For students who enter the School hereafter the fee for the fourth year will be two hundred dollars, as for the other years, but no graduation fee will be charged.

The plans for an elective fourth year, already determined on by the Faculty, were studied in committee during the year 1902–03, and are well advanced. This change will apply for the first time to the Medical class which entered the School in the fall of 1902. From the beginning, the course of study for this class has been different from that of any earlier class, all the courses of the preceding years being affected by the fact that the fourth year is to offer a wide choice of elective studies.

The block system, by which the number of subjects pursued simultaneously by the individual student is reduced, and the amount of time devoted to each subject while it is pursued is increased, continues to be regarded as a decided improvement over the former system. It is an experiment in education which ought to have great interest in schools and colleges as well as in professional schools; but it should be remembered that the Medical School experiment is one that has been tried on mature men only.

The receipts from the summer courses given by the School were larger in the summer of 1903 than ever before, and the receipts from courses for graduates were larger than in either of the two preceding years. Such favorable indications are welcome, because these are directions in which the work of the Medical School ought to be greatly developed.

Extraordinary and hopeful success attended investigations of small-pox carried on by members of the Department of Pathology during the year under review. These investigations are to be continued at home and in the Philippine Islands, in the hope of making a very serviceable contribution to the etiology of small-pox and vaccinia.

The Dental School reduced its deficit of 1901–02 materially; but still its expenses exceeded its receipts by $2,124.80, in spite of the fact that the whole business of the School was conducted with prudence and frugality. It is apparent that this department of the University cannot be conducted in a progressive and thoroughly worthy manner without more endowment than it now possesses. It has only two funds — the Dental School Endowment of $2,255.85, and the Henry C. Warren Endowment of $23,000. In addition, it has money for building to the amount of $20,802.33, and a balance at the disposal of the Corporation, principal and interest, of about $30,000. The School does, through its instructors and students, a large amount of charitable work, as may be seen in the tables published in the Dean's report (p. 195). The teachers and students of the School not only perform in the infirmary a great amount of gratuitous service, but the School is obliged to pay, in many instances, for the medicine and materials used on the patients. The Faculty has recently raised substantially the requirements for admission, and now proposes to use, beginning in June, 1904, the entrance examinations of Harvard College and the Lawrence Scientific School as tests of fitness, instead of conducting, as formerly, examinations of their own. It is probable that the new requirements will, for a time, reduce the number of students in the School.

Instruction in dentistry, like instruction in surgery, is decidedly costly. The Dental student needs much of the same laboratory instruction which a Medical student receives, and he also needs to be taught by experts many dental processes and manipulations. He must personally receive, therefore, a great deal of skilful instruction — the kind of individual instruction which is always expensive. It is not reasonable to expect that a well-conducted dental school should meet its expenses from its fees, or even approach that result.

The great Bussey estate near Forest Hills contributes more and more to the resources and activities of the University, as well as to the enjoyment and instruction of the public. It is useful, first, to the students of agriculture and horticulture who live in its vicinity, and, secondly, to students of landscape architecture who make their headquarters at Cambridge. It is about to be useful, through the Arnold Arboretum, to the students in the new course of forestry in the Lawrence Scientific School. For this last class of students the Arboretum provides facilities of highest value, first, in its collection of living specimens of trees and shrubs, next in its library and indices, and thirdly in its dried collections. Again, through a combination of the State Board of Health and the Department of Comparative Pathology of the Harvard Medical School, a very useful work for the people of Massachusetts has been carried on at the Bussey Institution in the preparation of diphtheria antitoxin for public distribution. A portion of the Bussey estate is utilized for the animals used in the preparation of this antitoxin, and a portion of the Bussey building for the necessary laboratories. The same combination of medical authorities is about to enter on the preparation of vaccine for public distribution; and for this purpose a new laboratory is now being built near the present buildings of the Bussey Institution. The estate affords such admirable facilities for keeping animals to be used in the study of Comparative Medicine that the Corporation look forward to a resumption, at no distant day, of instruction in Comparative Medicine and Preventive Medicine for domestic animals — instruction which was interrupted when the Veterinary School was abandoned because no endowment could be procured for it.

The all-important problem as to the Library is how to obtain an adequate building and an endowment to meet the added cost of occupying the larger building. In the first place, it has become perfectly clear that the Corporation cannot accept new buildings unless such gifts are accompanied with funds the income of which will enable the Corporation to use the buildings provided. On this subject the Corporation have recently had two valuable object-lessons from thoughtful benefactors. The first was given by Mr. and Mrs. Nelson Robinson, when they endowed the building they subsequently erected for the Department of Architecture before they began to build it. The second was given by Mr. John D. Rockefeller, when he insisted on the Corporation procuring additional contributions for the Medical School amounting to $765,000 as the condition of receiving his own gift of $1,000,000, the condition being founded on his conviction that unless these additions were made to the endowment of the Medical School, the School would not be able to live suitably in its new buildings when they were ready for occupation. There are, however, two very serious questions with regard to a new building for the Library, — namely, where it should be placed, and how large it should be. As to its site, it is the general opinion that the new Library, like the present one, should be in the College Yard. As to its size, the data are still lacking for a proper decision of the question. For how many volumes shall the new Library be built? For how many readers shall desks be provided? For how many librarians, cataloguers, and assistants shall provision be made? Any person who contemplates giving a building to the University will naturally desire to look forward to a tolerable permanence for his building. Such a building should have a monumental character, and should be worthy architecturally of its noble objects; but such a character cannot be imparted to a building which must be extensible in all directions, and therefore built by bits and never finished. A monumental and permanent building should be a unifying whole, or a finished unit. If, however, such a building is to stand in the College Yard, its dimensions and capacity must have moderate limits. It might contain, for example, stacks large enough for a million volumes, reading-rooms containing five hundred desks, and ample rooms for delivery, catalogues, and administration. Now, the collection of books in Gore Hall has more than doubled in twenty years, and it is impossible to suppose that the rate of increase is going to diminish. The number of students in the University also increases in a formidable manner; and affiliated bodies of students are likely to gather more and more about the University. There are already in Gore Hall 415,928 volumes, beside 280,000 pamphlets. Any one who is capable of looking forward twenty years must see clearly that a library building suitable for the permanent occupation of such a portion of the College Yard as can be given to it will not hold long all the books belonging to the general library of the University. If this be certain, it will be wise to plan now for another place of storage for the books which can be removed from the College Yard with the least injury. A million books would seem to be a reasonable current stock to be kept on hand from generation to generation in the same building with the administrative offices and the reading-rooms. If the idea of a limited library could once be accepted, the classification of the books on the shelves could be made reasonably permanent; and the confusion of the catalogues caused by incessant reclassifying and rearranging could be avoided. When once the idea of completeness is abandoned, many sources of waste or fruitless expense in the conduct of the Library will be dried up. If a million volumes were provided for, each class might well contain a fair representation of all the best literature in the class. Profitable "browsing" by competent students would still go on, and the "browsing" would be all the better because the less valuable material had been culled out of the mass.

Another difficult matter is the question of retaining the present Gore Hall as part of the future Library building. The considerations which affect the mind of the Corporation on this subject relate to the best permanent policy toward its benefactors in an educational institution which has depended, and is likely to depend, in large measure on endowment for its means of public usefulness. It must be discouraging to future givers to see gifts, which were highly valued when they were first made, transformed beyond recognition, or contemptuously thrown aside, two or three generations later. The benefactors of the future should be encouraged by seeing that the benefactors of the past did a permanent good, and obtained a durable memorial among men. Thus far it has been the policy of Harvard University to preserve all named buildings which were capable of preservation. In its day Gore Hall was an extraordinary achievement and a benefaction of great moment. If possible, it should continue to be used for the high purposes to which it was originally devoted.

If the University possessed an adequate Library building situated in the College Yard, some of the special reference libraries might cease to exist if they were provided with quarters in the new Library. Thus, the special libraries for classics, history, and political economy might be transferred from Harvard Hall to the new Library; but it is sure that many of the special libraries would still be best placed in the laboratories, museums, and drafting rooms where they are most conveniently used. All of the department libraries (p. 203) would continue to be separately maintained; and these libraries already number at least 225,000 volumes. The books belonging to the University will therefore never again be assembled under one roof, no matter how wide-spreading that roof may be.

The botanical establishment of the University is divided into five parts — the Gray Herbarium, the Cryptogamic Herbarium, the Botanic Garden, the Botanical Museum, and the Arnold Arboretum with its library and herbarium. These establishments are but partially endowed. They all depend on gifts made every year for present use — gifts which testify to the interest they inspire, but which do not give that assurance of permanence which all these botanical collections desire and deserve. Nevertheless, the work of all these collections goes vigorously on, — never more vigorously than in 1902–03 (pp. 222–232). Both at the Cambridge botanical department and at the Arnold Arboretum the first and greatest need is permanent endowment to a large amount. The second need at Cambridge is a fireproof building in which all the botanical collections and laboratories could be safely united.

In 1902–03 important additions were made to the teaching force in the departments of chemistry and physics; and both departments were active and productive in research. The elementary course in chemistry called "*B*" was withdrawn; but the withdrawal caused no injury to the department as a whole, the election of the other courses continuing to be satisfactory. The withdrawal of this course suggests the possibility of withdrawing the somewhat similar half-course in physics called "*B*." These two courses have, however, been given in different ways, and they have probably answered somewhat different purposes. Physics *B* is substantially equivalent to the second alternative requirement in elementary physical science for admission to College. The Director of the Physical Laboratory suggests (p. 239) that all students who propose to study medicine should take Physics *C*. This excellent suggestion is based on the fact that many physical instruments are now used in medical diagnosis and research, and that previous practice in the use of such instruments has immediate value for a medical student. The importance of chemistry in medicine seems to be better understood by College students than the importance of physics.

The teaching force in the Engineering Department was much strengthened by new appointments during the year under review; and in consequence the instruction given in the department was much enriched.

The Engineering Camp at Squam Lake was carried on during the summer with continued success, except that the necessity of buying new equipment for an increased number of students caused a deficit of $1,774.02 in the account of the School. For next summer the charges to be met by the students will have to be somewhat raised in order to prevent the recurrence of a deficit. The use of a part of the summer vacation for study, exploration, visits to mines, mills, and factories, and out-door work in such subjects as horticulture, surveying, and forestry, is decidedly on the increase.

The Chairman of the Division of Engineering (p. 244) corroborates the observation of the Dean of the Lawrence Scientific School to the effect that students in Harvard College are more and more taking the less technical courses on engineering while they are in College, and subsequently transferring themselves to the Scientific School for a degree in engineering. It is the opinion of the Chairman that in this way a very satisfactory training for engineering may be procured.

The first volume of the Harvard Psychological Studies was published during the year under review. The volume contains sixteen investigations, which deal essentially with processes of perception, memory, emotion, and reaction. It is hoped that a second volume, including several studies in animal psychology, will be published during next year. The Director's description of the researches carried on in the Psychological Laboratory (p. 245) will be found interesting and suggestive.

The report of the Director of the Observatory will convince any intelligent reader of two things, — first, that far-reaching plans and continuous, well-directed labor year after year to carry out such plans will yield the best results in scientific research, just as they will in a mechanical industry or in the administration of a school or college; and, secondly, that co-operation between different observatories in carrying out large pieces of routine investigation would make the money spent in such investigation more productive, and more promptly productive. The experience of the Harvard Observatory during the last twenty-seven years illustrates very forcibly the great advantage of assured continuity in scientific research. This continuity, of course, depends on an income which can be calculated on years in advance, and spent year by year in accordance with plans made with foresight for the incessant pursuit of a remote object.

The Director points out that the buildings and instruments belonging to the University have become altogether inadequate in comparison with its endowment. It has invested funds to the amount of $905,000, but buildings and instruments cannot be procured from these funds unless out of their income; and then the regular activities of the Observatory would have to be reduced because of the temporary diversion of the money which supported them. Money for immediate use is therefore greatly needed at the Observatory to supply additional fireproof buildings and improved instruments. In particular, the very valuable library of the Observatory should be placed in a fireproof building. Twenty thousand dollars would supply an adequate structure; and a like sum would provide another much-needed building for the computing-rooms, photographic laboratory, and work-shop.

The Keeper of the Museum of Comparative Zoölogy reports (p. 259) that gifts to the Museum were unusually numerous and valuable during the year under review. The most considerable gift was the collection of recent and fossil insects from Mr. Samuel H. Scudder, one of the most eminent of entomologists, who was for many years an Assistant in the Museum.

Notable improvements have been made in several of the exhibition rooms by the introduction of cases glazed with large sheets of plate glass.

The special library of the Museum, like all libraries, continues to grow apace, and threatens to absorb a disproportionate share of space and annual income. It must provide room for readers, since its books are not allowed to be withdrawn from the building for home use. In spite of the fact that museums exist primarily for the exhibition of objects, all the University museums and collections seem to require collections of books under their own roofs; so that all of them are burdened with the inevitable charges of library maintenance and increase. There is this distinction, however, between the museums themselves and their libraries: the first are largely for the public; the second are for the benefit of the officers of the museum and of University teachers and students.

The Museum publications of the year (App., p. 322) were unusually voluminous. The two "Memoirs" published and two out of the thirteen numbers of the "Bulletin" were reports of the results of three of the Director's sea expeditions to the tropical Pacific, the Fiji Islands, and the Maldive Islands. Five volumes of the "Bulletin" and five of the "Memoirs" are now in course of publication. The publications of the Museum testify to its active productiveness; and they supply material for exchange with learned societies and libraries, thereby contributing largely to the development of the Museum library. They absorb, however, a considerable fraction of the Museum income.

The number of students attending the courses given in the zoölogical laboratories does not increase as it should. Zoölogy is not a subject which offers a career either in teaching or in manufacturing; and undergraduates who intend to be physicians or surgeons have not learned what a great advantage they can procure for their medical studies by taking two or three half-courses in zoölogy while they are in the College or in the Scientific School. The colleges, and the various public services connected with health, food supplies, and the animal industries in general, afford the only chances of employment for professional zoölogists. Latin and Greek, English, and physics are subjects which give a livelihood much more surely than botany or zoölogy. This is not a reason why a university should restrict its teaching of these sciences, but it explains why comparatively few undergraduates study them.

The equipment of the Zoölogical Laboratory was improved during the year by the addition of aquaria for both salt water and fresh. About 4,500 gallons of water for this purpose is stored in concrete cisterns under ground, whence it is pumped by an electric motor into wooden reservoirs, from which it passes through wooden pipes to the aquaria. This useful equipment was a gift from a few friends of the department. It is a valuable means of instruction and research. Friends of the department also gave money to equip a temporary biological laboratory at Bermuda during the last summer, at which instruction was given to thirty-four persons, fourteen of whom were, or had been, connected with Harvard University or Radcliffe College. The laboratory was in charge of Professor Mark of Harvard and Professor Bristol of the University of New York; and important aid was given to the school by the Bermuda Natural History Society. The fauna of the Islands proved to be well adapted to the purposes of the school. The success of this enterprise is another evidence that there is active demand for laboratory and field teaching of many sorts during a large portion of the long summer vacation.

The report of the Geological and Geographical Department (p. 268) illustrates the same fact. An advanced summer field course in the regions about Utica and Catskill, New York, and Meriden, Connecticut, was chosen by four students; and a new summer course of geological field work in the Rocky Mountains was chosen by thirteen students, of whom seven were connected with Harvard University. Five weeks were spent in the high mountains of southwestern Colorado without sickness or accident; although during half of this period the camp was at an elevation of more than 11,500 feet. For field work during term-time various interesting regions in eastern Massachusetts are utilized, this district having proved to be an excellent field for training geologists, because of the variety of the phenomena it illustrates and their complexity and difficulty.

Professor Davis was absent four months on a journey to the Caspian Sea and Turkestan to study physiographic problems as a member of Professor Pumpelly's Carnegie expedition.

The department possesses in the Gardner Collection of photographs a valuable means of teaching geology and geography. It has now been satisfactorily classified and catalogued, and contains 5,483 photographs and 3,780 slides. For large classes slides are far more valuable than photographs; but the slide is often made from a photograph.

The department took an interest in organizing the Harvard Travellers Club, with the object of uniting Harvard students and graduates and others interested in the promotion of intelligent travel and exploration. The Club numbers at present about one hundred members.

The Peabody Museum of American Archaeology and Ethnology is very inadequately endowed. It is a marvel that such valuable collections have been brought together in thirty-seven years, when one considers the slenderness of its resources. Its entire endowment is now $206,346.30, of which $83,125.87 has been received since 1890. In recent years most of the important explorations conducted by the Museum — explorations which have greatly enriched it — have been paid for by generous friends of the Museum interested in archaeological inquiries.

The number of courses of instruction conducted at the Museum has been recently increased; and there has been a corresponding increase in the number of students electing such courses. In April, 1903, the President and Fellows, on request of the Faculty of the Museum, determined to assume the care of the building, so far as fuel, cleaning, and the service of the janitor and the fireman were concerned. In taking this action, they recognized the fact that the building and its collections were being used by students much more than formerly, and were also influenced in part by the consideration that the new Semitic Museum is heated from the Peabody Museum, and that the division of the cost of heat might give rise to undesirable discussions. This arrangement was made before the President and Fellows knew that the financial result of the year 1902–03 was going to be an unfavorable one.

The Museum receives from many friends numerous gifts of interesting and valuable objects. (See the Curator's report, p. 282.)

During the first half of the year the Semitic collections were arranged in the new building; so that on the fifth of February, 1903, the Museum was formally opened with suitable ceremonies.

A balance of nearly $13,000 remains to be spent for collections; but the purchase of appropriate objects is necessarily slow. Desirable reproductions are not often to be had; and many difficulties surround the purchase of original objects. The surest way to increase the collections would be to equip an exploring expedition for some promising portion of the Semitic territory. Egypt, Palestine, Babylonia, Assyria, and Persia all offer inviting fields for well-equipped and competent exploring parties; and Harvard has already trained men competent for this work who are now in the service of other institutions.

The running expenses of the Semitic Museum are necessarily borne by the Corporation, the Museum having as yet no endowment. Its excellent lecture rooms are used by the Semitic Department and the Divinity School; and the Museum is open to the public daily, except Sundays and holidays, from 9 A.M. till 5 P.M.

The Director of the Fogg Museum reports the addition to the collections of numerous objects which are of high value as works of art. It appears, therefore, that the Museum is likely to become the store-house of original artistic objects of distinguished merit, as well as of casts, prints, and photographs. The objects especially mentioned by the Director are forty-seven bronze reproductions of Italian and French medals, Turner's water-color drawing of Devonport, and an early water-color drawing by the same master. The Museum now possesses five original works by Turner, representing as many periods of his career. 1,124 photographs and 24 slides were added to the collection. The Loeb Collection of ancient bronze vases and gold ornaments has been suitably installed in the northwest room on the ground floor, which is now devoted exclusively to bronzes, coins, medals, vases, and kindred objects, for the most part of Greek and Greco-Roman workmanship. The Director calls attention to the fact that the Fogg Museum already includes a large amount of material illustrating both Semitic and Germanic art, and expresses the opinion that a common basis of action should be determined on by conference between the three Curators to avoid unnecessary duplication in the three museums — the Fogg, the Semitic, and the Germanic.

It will soon be necessary to enlarge the Fogg Museum (p. 296). Plans for wings have been prepared, the estimated cost of which is $40,000 and $50,000 respectively.

The report of the Curator of the Mineralogical Museum indicates that the collection has some well-disposed friends, if no endowment. It is much to be regretted that the University has no means of maintaining suitably and increasing this collection, which is one of the oldest in its possession. The Curator makes the most of a slender appropriation and of the gifts which come in year by year. The exhibition room is large, and the collection is in many respects a handsome one, but the central parts of the room need artificial light.

The Curator of the new Germanic Museum gives (p. 297) a summary description of the present contents of the collection. It follows from this description that it is not yet a Germanic but only a German Museum, the bulk of the collection representing German architecture and sculpture of the Middle Ages and the Renaissance. The ultimate object of the Museum should be to illustrate the development of Germanic arts and crafts throughout Europe on English, Dutch, Scandinavian, Swiss, and Austrian soil, as well as on German.

The Curator therefore describes the enlargement of the collection which will be necessary to make it truly Germanic in character, and to give it a just historical and at the same time an artistic arrangement.

The building in which the collection is temporarily housed — the Rogers building (1858) — has turned out to be singularly well adapted for the purpose, the light upon the casts and other objects being remarkably good. All the objects, both large and small, except the huge equestrian statue of the Great Elector, can be well seen. From that superb colossal figure the observer cannot remove himself far enough.

The collection is unique in this country, and it attracts a considerable number of visitors. Unfortunately, the Corporation is at present able to open it to the public only on Mondays and Fridays and on Sunday afternoons.

The number of students in Radcliffe College declined somewhat in 1902–03, but has risen again during the current year. The number of Graduate Students has increased satisfactorily. In the fall of 1902, $116,500 was given to the College for a students' house where provision can be made for food and rest, for recreation and social intercourse. The building is to be called the Elizabeth Agassiz House, and is to stand next the Gymnasium on ground already owned by the College. This gift is one of large practical value for the College, and is also precious because it is to bear the name of the first president of the College, who has done much to determine the social, scholarly, and spiritual atmosphere of the institution and its permanent relations to Harvard University.

When Mrs. Agassiz withdrew from the presidency of the College in June last, Professor LeBaron Russell Briggs, Dean of the Faculty of Arts and Sciences in Harvard University, was unanimously chosen President of Radcliffe College. Under its charter, intimate relations with the Faculty of Arts and Sciences will always be essential to the welfare of Radcliffe College. Most of its principal teachers will always be drawn from that Faculty. By electing its Dean President of Radcliffe, the Associates drew closer the ties which bind the University and Radcliffe College together. President Briggs brings to his new office experience in administration, a strong interest in the College, and both the intention and the capacity to promote the common interests of the two institutions and the special interests of Radcliffe.

The primary need of Radcliffe College is an endowment fund, the income of which can be used for the general purposes of the College. It also needs immediately another hall of residence, in order to provide comfortably for students from a distance. At present its students are chiefly drawn from eastern Massachusetts. In its Senior Class of 63 members, only 8 come from outside Massachusetts; in its Junior Class of 69 members, only 6 are from outside Massachusetts; in its Sophomore Class of 74, not one; and in its Freshman Class of 81, only 11. Many families at a distance are not satisfied to have their daughters live in scattered private houses without receiving the daily supervision of the College; and, moreover, young women so scattered cannot enjoy some of the most precious privileges of College life. Bertram Hall has demonstrated that there would be a demand for two or three more such buildings, particularly if they could be opened to students at somewhat lower prices. At present it costs nearly twice as much to send a girl to Radcliffe College as it does to send a boy to Harvard College, because former generations have provided educational endowments for the boy but not for the girl.

The Harvard Dining Association, which uses Memorial Hall, voted last June to try a new method of conducting its business. The new method is intended to prevent waste, and to cause the cost of carrying on the hall to be more equitably divided among the members of the Association, each member paying for what he himself eats of the more costly articles. The waste of the former method occurred chiefly in meat, fish, and eggs. These articles are, therefore, to be provided under the new plan only by the plate, and are to be paid for by the plate by means of a ticket book something like a railroad mileage book. Under the former system every man ordered as many plates as he pleased of any article. Under the new system he does not order more meat, fish, or eggs than he wants to eat, or, if he does, he alone pays for what he orders. The cost of each man's board is in two parts. The first part is for meat, fish, and eggs, ordered and paid for by the plate; the second is for all other provisions, such as tea, coffee, cocoa, milk, vegetables, breads, butter, cereals, desserts, and fruits. These, and the service, coal, light, and all other running expenses are shared alike by all. Connected with this change of policy as regards the food was an effort to prevent the payment of gratuities to waiters. It had become the custom to pay a weekly fee to every waiter, but this payment was variable, unequal, and troublesome. To break up this undesirable custom the waiters' wages were raised, and all members were requested not to give fees. An agreement was also made with all the waiters engaged in September last that they were not to receive gratuities. The new wages of waiters are in three grades, according to length of service. (App., p. 328.)

This new method was put in force at the opening of the current academic year; and a vote on continuing the system was taken on November 20th, when it was decided, by a very large majority, to continue the system. The new method is an approach to what has always been the method in Randall Hall, and its predecessor the Foxcroft Club, where all the food is paid for *à la carte*, and the waiters are students who are paid by the hour and receive no gratuities. The advantages of the new plan are that it is less wasteful, more equitable, and, for the individual, more elastic. As compared with the method of Randall Hall, it is less troublesome for the individual member; for he is obliged to give an order, not for everything he eats and drinks, but for perhaps half the articles he consumes.

Every intelligent experiment on the wholesome feeding of students is of great interest in a large university; for, under the existing conditions of American society, it is impossible to build up a great university of national resort unless cheap and wholesome lodgings and food are systematically provided. A large majority of all the students in Harvard University need to be frugal in both these respects. The success of the two great Harvard Dining Halls is therefore a useful contribution to good theory and practice in university administration. They have been coöperative undertakings, managed by the students, supervised rather from a distance by the Corporation, and aided as to their accounting by the Bursar. Neither Hall has ever cost the University treasury a dollar. Both have from time to time borrowed money from the University with which to make improvements; but both have paid regular interest on these loans, and made suitable provision for their extinction.

Another element in the cost of student life over which a university may wisely try to exercise some control is students' supplies of clothing, books, stationery, furniture, and fuel. Such a control is exercised by the Harvard Coöperative Society, a successful institution which started in 1882 without capital and without incorporation, and has gradually accumulated a capital of $45,000. For the year ending 30 June, 1903, the receipts of the Society were $296,491.24 and its expenditures $274,663.42. In January, 1903, the Society was incorporated, and in the following summer it bought the Lyceum Hall property on Harvard Square, the best site in the neighborhood of the University for a retail shop. Delays over the title prevented the Society from occupying its new premises during the past autumn; but the transaction has now been completed, and another year will find the Society established in a well-situated and spacious building of its own.

The Harvard Union exhibited a distinct financial improvement in its second year. It has five sorts of membership — active ($10 a year), associate ($5 a year), non-resident ($3 a year), graduate life (one payment of $50), student life (one payment of $75). In 1902–03 the membership increased in all these five classes. The life-membership fees are funded; and the life-membership fund now (December 1, 1903) amounts to $49,300. The cost of carrying on the Union in a suitable manner may be fairly estimated at $30,000 a year. In the year under review the expenses amounted to $28,255.40, and were all met. For the current year the enrolment in each of the first three classes of membership is somewhat smaller than it was last year; and the business of the restaurant has not been so good as heretofore. This diminution of income results from the prevailing tendency to economy among the members of the University. The Union needs for its comfortable maintenance at least two thousand life members, and at least two thousand active members ($10 a year), beside a thousand associate members and a thousand non-resident members. Failing this large and steady membership, it needs endowment. At present only about two-thirds of the students in Cambridge are members of the Union, the other third having no use for it, or being unable to pay the annual fee. There can be no doubt concerning the social serviceableness and value of the Union. Its fees are very low, considering what it gives the members; and the reduction of these fees is not to be recommended. It is not conducted in an extravagant manner, but, on the contrary, simply and prudently. The richer students all join it; but they have not thus far contributed much else to its support. It would be an amiable thing if the present and past members of the small clubs, which enjoy the use of spacious houses in Cambridge, would exert themselves to make the financial future of the Harvard Union secure, — the younger men by giving money, and the older men by giving money and becoming life members.

The results of a canvass of all students in the University with regard to their habitual sports and exercises will be found in the report of the Chairman of the Committee on the Regulation of Athletic Sports (p. 115). The school which made the largest percentage of replies was not the College, as might have been expected, but the Dental School; and the third in readiness to reply was the Medical School. The exercises most used by the students are gymnasium exercises, lawn tennis, hand-ball, and golf. The games in which the public is most interested — namely, foot-ball, base-ball, and rowing — are serviceable to much smaller numbers of students, no one of these three sports serving more than one-sixth of the total number of students who reported the exercises they used. The game which has been conducted at Cambridge with the least intelligence and success is foot-ball, — except from a pecuniary point of view.

The breaking up of College work for the individual student by frequent absences to play games at a distance from Cambridge is an evil which ought to be checked. It is a greater evil than formerly, now that intercollegiate games take place all the year round — that is, in winter, as well as in spring and autumn.

The Class of 1879 having offered to give $100,000 towards building on Soldier's Field a Stadium of concrete and steel, ground for this structure was broken at the end of June last, and the work was diligently prosecuted under the supervision of Professor Ira N. Hollis, till by the middle of November the huge structure was about four-fifths finished, and was in a state to be used for the foot-ball matches of November 14 and 21. There have been spent on the Stadium thus far the gift of the Class of 1879 and about $100,000 saved during several years from the gate-money. The structure, when finished, will be a stately and impressive one; and it will enable 30,000 people to witness various athletic sports in a safe and convenient way. What the durability of the structure will be time only can show. It will be completely exposed to rain, snow, and frost, and to a range of temperature of some 130°. The University bears no part of the risks of the experiment; for it will not have contributed a dollar to the cost of the structure. The Class of 1879 and many other friends of the University would be glad to have the Stadium used for other purposes beside games. It has been suggested that it might be available for the festivities of Class Day, and possibly for other large academic assemblages. When the building is finished it will be interesting to learn how well the human voice can be heard from the field by persons seated in the southern — the round — end of the Stadium.

Professor Hollis retired from the Chairmanship of the Committee on the Regulation of Athletic Sports at the close of the year under review, having served the University well in that difficult post for seven years. All the improvements on Soldier's Field, including the Stadium, have been made under his direction; and he has given to the work of the Athletic Committee a deal of time and labor under circumstances which have often called for patience, endurance, and firmness. For the promotion of serviceable athletic sports among the students he has made many sacrifices, and has earned the gratitude of those who believe that American youth ought to have the opportunity of enjoying a great variety of athletic sports reasonably and honorably conducted.

So soon as a student in any of the Cambridge departments of the University finds himself sick, he is expected to give notice of that fact at the office of his department, either by visiting it himself, or by sending a friend on his behalf, to fill up a blank called a "sign-off." This "sign-off" explains his absence from his usual duties. The object of the University in requiring this information is to make sure that every sick student receives prompt medical attention and suitable care. It would appear from a comparative table of the numbers of "sign-offs" during the past three years (App., p. 330) that there was an extraordinary difference in the amount of sickness in the various departments of the University. The students in Harvard College seem to be sick nearly twice as much as the students in the Lawrence Scientific School; and, curiously enough, the Special Students in these two undergraduate departments are ill much less than the regular students. Moreover, the students in the College are sick more than ten times as often as the students in the professional schools. The figures in the table in all probability do not correspond with any real facts. It is the opinion of the Medical Visitor that a large proportion of the "sign-offs" of undergraduates are uncalled for. The real disease is what soldiers call "malingering," which is a moral and not a physical disorder.

The Stillman Infirmary was in use during the year 1902–03 for the first time, and amply demonstrated its usefulness and the excellence of its appointments. 223 cases were admitted, of which 146 were discharged well, 74 were discharged relieved, two were transferred to the diphtheria ward of the Cambridge Hospital, and one remained in the Infirmary on the 30th of June last and through the summer vacation. The private-room patients numbered 89, and the ward patients 134. Of the nine operations for appendicitis at the Infirmary, four, which were urgent, were performed at night, the electric lights proving as satisfactory for surgical work as daylight.

The Infirmary had an income from funds in 1902–03 of $3,711.92, of which $1,949.24 was accumulated income of the Samuel Ward Fund, an accumulation not accessible again. This ancient fund (1680) has been assigned by the Corporation to the Infirmary. The receipts from students during the year were $4,500.76; and the total cost of maintaining the Infirmary was $11,898.61. The Robert Charles Billings Fund (1903), the income of which goes to the Infirmary, yielded interest for only part of the year — namely, the sum of $585. Its income for the full year, if it had been in possession of the Corporation, would have been $2,340. Good progress has therefore been made toward finding means of support for the Infirmary; but much remains to be done. Early in the year the Corporation endeavored to procure the consent of the members of the University to bear an Infirmary charge of $4 a year, in return for which any member should be entitled to a fortnight's ward care at the Infirmary, if he were sick; but the number of students that agreed to take part in this plan was insufficient. One reason given by a considerable number of students for refusing to join in this insurance plan was that the Infirmary could not take care of them if they had chicken-pox, measles, or mumps, the last two being the commonest contagious diseases among the student population. Mr. James Stillman has now added to his first gift of $100,000 for the Infirmary the gift of $50,000 with which to build wards for these contagious diseases. If all the students in Cambridge were to be assessed $4 a year, it is probable that the Infirmary could be supported on its fees with the help of the income of its present endowment, although on that plan the students would undoubtedly use the Infirmary with great freedom. That freedom is, however, desirable, because it would tend to prevent serious disease and suffering among the members of the University, and particularly among the poorer students.

The records of the Appointment Committee contain instruction on many matters which should interest students and their parents, and graduates of the University. These records are, however, much less complete than is desirable. In the first place, the number of graduates of the College who are registered with the Committee is only about 1,700, and the great majority of these are men who desire positions, or better positions, as teachers. Now, the number of living graduates of the University is at least 15,000. Secondly, the records of the Committee are not complete in respect to the number of positions secured by Harvard graduates year by year. Even graduates recommended by the Committee secure positions without informing the Committee of their success. Institutions which inquire for teachers frequently fail to inform the office that they have employed graduates recommended by the Committee. The Committee has a record of 139 teachers' positions, away from Harvard University, which were secured by Harvard graduates in 1902–03; but their information about the majority of these places was casual and indirect, not systematic and direct. In order to make the efforts of the Committee more useful, the active coöperation of the graduates of the University, and particularly of graduates who hold positions which carry powers of appointment to places suitable for young graduates, is much to be desired. The Committee can be of service not only with regard to first appointments, but with regard to transfers and promotions. Thus far, the Committee has been of more use to universities, colleges, and private and endowed schools, than to public schools, — perhaps because positions in public schools are not regarded by Harvard graduates as sufficiently secure and independent. It is for the public interest and the interest of the University that the Appointment Committee should be enabled to supply men for positions as superintendents, principals, and sub-masters in public school systems, whether through original appointments or by transfers. The Committee could often serve public schools by suggesting the transfer to a larger place of a Harvard graduate who has already had experience in teaching: but for this purpose it is essential that the records of the older men registered in the office should be kept up to date, and this can be properly done only through the coöperation of the men themselves.

As regards the demand for teachers and the supply in the office of the Committee, the following facts are of interest: in secondary schools the personality of the candidate — that is, his bearing, address, disposition, and manners — is generally more important than his knowledge of any particular subject. In the best-equipped schools a teacher is often required to teach more than one subject, and is not infrequently engaged to teach one subject and later given another. In small high schools a man would be required to teach nearly all of the elementary subjects. The subjects for which teachers were most sought in 1902–03 were, first, English, next mathematics, and then Latin, physics, and general science. In English, particularly in composition and debating, and in the sciences, particularly in physics, the demand far outran the supply. In philosophy, on the other hand, the demand was smaller than the supply. The salaries of inexperienced young graduates who get positions as teachers are at first smaller than the annual earnings of many mechanics, such as lithographers, plumbers, electrical workers, and masons; but the salaries of such teachers soon rise above the level of the annual earnings of mechanics in even the most skilful trades. The Committee received during the year 512 requests for teachers, several of them calling for a number of men. The demand for men of technical training is constant, and exceeds the supply. Requests for educated young men were received from several important corporations which employ thousands of men, from wholesale business houses, and from brokers, life insurance companies, and publishing houses; and some of these requests are virtually standing orders. This part of the work of the Committee might be and ought to be greatly enlarged; for a larger and larger proportion of Harvard Bachelors of Arts goes year after year into business, including in that term the service of large corporations.

The Committee not only secures places for graduates, but gets work for undergraduates who are supporting themselves, wholly or in part, while in College. Students of the College and Scientific School work during term-time in all sorts of positions, earning from twenty-five cents an hour for a few hours a week to $1,500 or more a year. Tutoring positions in private families, secured through the Committee, often pay $100 a month and expenses. The office is saved much work by the habit among students of passing along a good thing. A good position once put into the hands of a competent student seldom comes back to the office to be filled; he passes it on to a friend. The Committee procures for undergraduates a considerable number of lucrative positions in summer; and this part of its work might well be increased if more clerical force were at the disposal of the Committee. For the present, it seems wise to give precedence to the more influential work of getting appropriate positions for graduates.

The Appointment Committee is but a few years old, and its work is capable of serviceable development. It was copied by Harvard from Oxford University; and has already been copied from Harvard by several American universities.

Up to the close of the year under review the Retiring Allowance Fund was more than adequate to the payment of all the retiring allowances which the Corporation had to supply; but with the opening of the present year the income of the fund became inadequate to the payment of all the retiring allowances the Corporation had voted. This valuable fund ought, therefore, to be enlarged. It amounted on the 1st of September last to $366,416.47. The system of retiring allowances will, of course, be maintained, in spite of the fact that the income of the fund is no longer adequate. When a full professor takes his retiring allowance, his work is ordinarily taken up by the professor in the same department who is next him in standing and experience, and the final vacancy is filled by appointing an instructor. Accordingly, there might be, for several years at least, no added charge on the general treasury in such a case, although the retiring allowance were paid, not from the income of the fund, but out of unrestricted income. This principle does not apply, however, to administrative and business officers. The University staff has been so enlarged during the past ten years that, as time goes on, the income of a fund at least twice as large as the present Retiring Allowance Fund will be needed to pay from year to year the probable retiring allowances.

In the President's Report for the year 1901–02 (p. 14), it appeared that the annual expenditures of the University for museums and collections, excluding the Arnold Arboretum, but including the Gray Herbarium and the Botanic Garden, had been for ten years past about the same, when expressed in per cent. of the total expenditure, as the annual expenditures for the University Library. If the Arboretum had been included in the group of museums and collections, the expenditures for museums would have been decidedly larger in every year than the expenditures on the Library. The University holds funds the income of which is applicable to the support of museums and collections to the amount of one and a half million dollars, including the Arboretum funds. It holds funds for the purchase of books and the support of libraries to the amount of $710,000, including the Law School funds for the support of its library. If the buildings occupied by museums be compared with the buildings used as libraries, it appears at once that the first group is much more extensive and costly than the second. This condition of things is comparatively new; for in 1850 there were no buildings specially devoted to museums or collections, and no funds the income of which was applicable to their support. It is noticeable that one of the earliest collections made for Harvard College — the collection of minerals — still remains without endowment for its support and enlargement. The development of the museums has been so gradual, that attention has not often been directed to this new feature in the structure and the activities of the University. The funds held for the benefit of the museums and collections now amount to about one-eleventh of the entire invested capital of the University. The University museums are not only geological, botanical, and zoölogical, but also anthropological — that is, they illustrate the arts and crafts of savage, barbarous, and civilized peoples, and therefore the history of civilization. They are created and maintained rather for the public and for the older members of the University than for the undergraduate youth. They supply what books cannot give, — the actual vision of real objects throughout a great range of human observation and experience. When skilfully arranged, they furnish types of immense numbers of sorted and classified objects, and, as it were, a representation of the world, past and present, and an epitome of the history of the earth's crust and of the races of plants and animals, including man. They have become indispensable in a modern university; but they should not be suffered to outrun the older and equally essential collections of books; and it should always be remembered that neither museums nor libraries can replace direct teaching, — the immediate instruction of the young student by the competent master.

In the academic year 1901–02 there had been a surplus of $10,291.11 in the account called "University, College, and Library," after paying the deficit of the Veterinary School for the year; and in the preceding year also there had been a surplus, though a small one. Moreover, the number of students in the departments under the Faculty of Arts and Sciences showed an increase of 165 in the fall of 1902 over that of the year 1901–02; and this increase in the number of students represented a probable increase in the tuition-fees of more than $20,000. In view of these facts, the Corporation, in the autumn of 1902, anticipated a good financial result for the academic year which had then begun. Consequently, during the autumn of 1902 and the spring of 1903 the Corporation made numerous promotions and new appointments, which resulted in an increase of $43,144.59 in the salaries paid in the departments under the Faculty of Arts and Sciences, — namely, the College, Scientific School, and Graduate School. The larger part of the new expenditure went to increase the amount of instruction offered; but a significant portion was used to improve the instruction already offered, particularly in the elementary courses resorted to by large numbers of students.

After this large increase of salaries had been made, the Corporation found themselves involved in other new expenditures to an unexpected amount. Three new buildings came into use during the year 1902–03, — the Stillman Infirmary and the Semitic Museum for the whole of the year, and the New Lecture Hall for a portion of the year. At the Stillman Infirmary the expenditures exceeded the receipts by $3,342.42, after applying the accumulated income of the Samuel Ward Fund to the support of the Infirmary. The running expenses of the Semitic Museum were $1,654.15 for the year. The payments made on account of the New Lecture Hall for about half the year were $2,390.16. The expenses incurred by the Corporation during the last half of the year in preparing the Rogers Building to receive the Germanic Museum were $2,328.06. All four of these gifts were highly desirable; but they all caused new annual charges, and the sum of these charges was $9,716.79. In the year 1901–02 nearly half of the debt of the abandoned School of Veterinary Medicine had been charged off; but $10,114.90 remained to be charged off in 1902–03. The situation was made worse because two considerable funds were transferred to the Medical School Undertaking in 1902–03, the income of which had previously gone to the University account, — namely, the Robert C. Billings Fund of $92,500, and $350,000 from the Henry L. Pierce Bequest. The transfer of these two funds in 1902 deprived the University account of an income of $21,264.61. During the year extensive additions were made to the telephone service of the Cambridge departments of the University; and various other improvements were made in the clerical and mechanical equipment. None of these improvements saved money; on the contrary, they all increased the running expenses. The financial result of the year was a deficit of $40,403.07 in the combined account of the College, Scientific School, Graduate School, and Library.

This result was not known to the Corporation until the end of September, 1903; and in the spring of 1903 they had made further additions to the salary list to take effect in the academic year 1903–04. By the middle of October last it appeared that there was to be no considerable net gain for the year now current in the number of students in the departments under consideration. It was too late to check the increase in the salary list for 1903–04; so that the Corporation are obliged to face a probable deficit for the year now current, in spite of persistent efforts to reduce the current expenditures for everything not instruction. The scale of expenditure for light, heat, ventilation, cleaning, and service in the Cambridge departments of the University has never been extravagant, although it has been raised significantly during the last ten years; and it is not possible to reduce that expenditure much, in spite of the fact that expenditures of this nature constitute a regrettably large proportion of the total expenditures of the University. The practices of fifty years ago at Harvard College in respect to ventilation would now be against the law as well as against the interests of the teachers and students; and public opinion would not now endorse the complete absence of bath-rooms from the dormitories owned by the College, an absence which occasioned very little remark down to the year 1890. It is the universal increase in the comfort of living which has caused the College to enlarge, somewhat tardily, its expenditures for the protection and comfort of its officers and students.

Although it is impracticable to prevent the recurrence of a deficit during the year now current, it is the clear duty of the Corporation to repair, as soon as possible, the mistake they made in the too large increase in the salary list for the year 1902–03. A few thousand dollars can be saved on running expenses, and a few thousand dollars more will be provided from new resources received; but it will be necessary to contract the salary list in the departments under the Faculty of Arts and Sciences by at least $25,000 for the year 1904–05. This reduction can be made by diminishing the number of instructors and assistants annually appointed. There will result some diminution in the number of courses of instruction offered, and some redistribution of work among professors and instructors holding permanent appointments; but, in general, the reductions can be made without seriously affecting the interests of any considerable number of the undergraduates.

Whenever a deficit has occurred in the account called "University, College, and Library," it has been charged to one or other of two funds which bore no personal name and were at the complete disposal of the Corporation, principal and interest. These two funds were the Stock Account and the Insurance and Guaranty Fund. The Stock Account had come down from remote generations; the Insurance and Guaranty Fund was created in 1860. To the credit of the Stock Account it was the custom to carry the proceeds of the sale of lands and of other anonymous pieces of property which it was not desirable to preserve as separate permanent funds. In 1827 the balance of this fund was already $88,475.67. It reached its maximum in 1839 — namely, $239,813.55. It disappeared from the Treasurer's accounts in 1900. The main cause of the disappearance of this fund between 1839 and 1900 is the charging to it of annual deficits. Between 1827 and 1900 deficits amounting to $250,812.28 were charged to this fund.

The Insurance and Guaranty Fund was accumulated by crediting to it the income from certain investments in excess of 6 per cent., and a few annual surpluses in the "University, College, and Library" Account. Gains on sales of securities were sometimes credited to it previous to 1880, and the balance of the Fire Relief Fund, which was raised after the great Boston fire of 1872, was finally credited to this fund in 1879, re-enforcing it to the extent of $122,973.10. The fund reached its maximum — $221,736.89 — in 1877. It now stands (1st August, 1903) at $91,885.23, so that from its highest level $129,851.66 have disappeared. The University has, however, some visible equivalents for this diminution of a productive fund. Thus, as far back as 1862–63, certain advances made by the Corporation for Appleton Chapel, Boylston Hall, and the Old Gymnasium (Rogers Building), were charged against this fund to the amount of $13,731.53; and the Library extension of 1876 was paid for from this fund to the amount of $89,012.68. Moreover, the cost of the unsuccessful effort to establish a veterinary school and hospital — an experiment which extended over twenty years — was really paid out of this fund to the amount of $49,159.67.

If we add the Stock Account at its highest level to that portion of the Insurance and Guaranty Fund which has disappeared, we find that there has disappeared from the invested capital of the University under these two heads the sum of $369,665.21 in the course of sixty-four years. It is certain, however, that the Corporation have obtained a full equivalent in lands, buildings, and equipment for all the invested capital which has disappeared; for the annual deficits charged to these two funds have often been due to improving expenditures on grounds, buildings, or collections. Thus, in recent years, the cost of the steam fittings and bath-rooms put into the College dormitories was charged in the annual accounts, and caused large deficits. A list of improvements to grounds, buildings, and equipment paid for out of unrestricted income and the unrestricted capital in the Stock Account and the Insurance and Guaranty Account between 1827 and 1903 will be found in the Appendix (p. 324). This list has been prepared by the Comptroller, Mr. Allen Danforth, and is accurate so far as it goes, but is known to be incomplete. To make it complete would have required a very laborious examination of the Bursar's accounts for sixty-six years.

The way in which the Insurance and Guaranty Fund was accumulated shows that it belonged to the entire University and not to any single department thereof. Before 1866 the Stock Account might have been held to belong to the College, and indeed was treated as if it were a College fund; but the change of financial policy then adopted, whereby the average rate of interest earned on all the general investments was thereafter divided equally on all funds not specially invested, really involved a new conception of the relation of the Stock Account to all the other accounts of the University. It indicated that the Stock Account might thereafter be held to belong to the entire University. Now the deficits charged to the Stock Account — charges which ultimately caused the extinguishment of the fund — were deficits in the account called "University, College, and Library." In the expenditures called "University" the entire institution has an interest, and all the Cambridge departments have an interest in the Library; but the interest of the Schools of Divinity, Law, and Medicine in the College and Scientific School expenditures is not direct, chiefly, but indirect. They are directly interested in the undergraduate departments as feeders only, or rather as two feeders out of many.

Mr. Allen Danforth, Comptroller, has prepared a list (App., p. 326) of the successive surpluses or deficits from the year 1826–27 to the year 1902–03 inclusive, on a scheme which presents a correct account of the surpluses and deficits consistently defined, although they are not always identical with the surpluses and deficits reported in a manner not uniform in the annual statements of the successive Treasurers. This table shows that it is only since the year 1896 that the College has really been living beyond its means. Down to that year inclusive, the sum of the successive surpluses was larger than the sum of the successive deficits. Between 1832 and 1857 there were only four years in which there was not a surplus. Financially, this period might be called successful; but it was not a period of rapid development, either in the College proper or in the University as a whole. One may also see in the list that the period during which deficits have been largest and most frequent is the period when the increase of the invested funds of the University by gift and bequest has been most rapid. There seems to be no connection between the procuring of annual surpluses and general University prosperity, or between the occurrence of deficits and University decline. It should be added, however, that the deficits have been very seldom caused by undue expansion of instruction. They have usually been caused by forced expenditures on grounds, buildings, equipment, and maintenance.

While it is unsuitable that any school or department of the University should live beyond its means, it is not possible to avoid occasional deficits, unless the Corporation abandon their policy — now of many years' standing — of spending year by year all their properly available resources. To avoid deficits invariably would mean to aim deliberately at an annual surplus, and to keep sufficient reserves to guarantee that annual surplus. This cautious policy, which is appropriate to an industrial or commercial establishment, the President and Fellows think not to be the best in an educational and charitable institution. Accordingly, they believe that the University should be conducted as a growing, changing, expanding organization, losing here but gaining there, and always turning out from year to year the largest possible immediate product of well-trained young men for the largest possible variety of intellectual work. If the general tendency of the institution is towards greater size, wealth, and usefulness, the various departments may from time to time experience deficits, or temporary diminutions of their resources, without occasioning serious anxiety.

The attention of the Overseers is respectfully invited to the following reports of the Deans of the Faculties and Schools, and the Directors of the Scientific Establishments.

CHARLES W. ELIOT, *President*.

CAMBRIDGE, 11 January, 1904.

REPORTS OF DEPARTMENTS.

THE FACULTY OF ARTS AND SCIENCES.

To the President of the University: —

Sir, — I have the honor of presenting a report on the work of the Faculty of Arts and Sciences for the academic year 1902–03.

Besides the President, the Faculty contained sixty-one Professors, three Associate Professors, thirty-five Assistant Professors, thirty Instructors, one Lecturer, and the Recorder, — in all one hundred and thirty-one members. Eight members were on leave of absence for the whole year, one for the first half-year, and one for the second half-year; and in the course of the year one resident member died. The number of Divisions and the number of Departments remained as in 1901–02; but the name of Division XIV was changed from "American Archaeology and Ethnology" to "Anthropology."

Instruction given in 1902–03.

With the following list of courses of instruction that were actually given under the authority of the Faculty, I print a statement of the number and the classification of the students in each course. The figures are those officially returned to the Recorder by the several instructors at the close of the academic year, and take no account of persons who, regularly or irregularly, attended the exercises and did the work of a course without being officially recognized as members of it. The abbreviations are those ordinarily used in such lists:—

COURSES OF INSTRUCTION GIVEN IN 1902–03.

Semitic Languages and History.

For Undergraduates and Graduates: —

1. Dr. Haynes. — Hebrew (elementary course).
2 Se., 1 So., 1 Fr., 1 Sc. Total 5.

12. Professor Lyon. — History of Israel, political and social, to the capture of Jerusalem by the Romans. 15 Se., 11 Ju., 12 So., 2 Sp. Total 40.

16. Professor G. F. Moore. — History of pre-Christian Hebrew Literature.
1 Se., 1 Ju., 7 Di. Total 9.

13. Professor G. F. Moore. — History of the Hebrew Religion, with comparison of other Semitic religions. 2 Gr., 1 Se., 1 Sp., 5 Di. Total 9.

Primarily for Graduates: —

‡2. Professor Lyon. — Hebrew (second course). Interpretation of parts of the Prophets and the Poetical Books. 1 Ju., 1 So., 3 Di. Total 5.

‡3 *hf.* Dr. Haynes. — Jewish Aramaic. — Interpretation of parts of Ezra, Daniel, and the Targums. 1 Ju., 2 Di. Total 3.

‡3*a hf.* Dr. Haynes. — Classical Aramaic (Syriac). — Rödiger's Chrestomathia Syriaca. The Peshitto Version of the New Testament. 1 Ju., 4 Di. Total 5.

‡4. Dr. Haynes. — Assyrian. 1 Gr., 1 Se., 1 Ju., 1 So., 1 Di. Total 5.

5. Professor Lyon. — Assyrian (second course). — The Chaldean Epic. Letters and Commercial Documents. 3 Di. Total 3.

‡7. Dr. Haynes. — Arabic. Nuḫab al Mulah. The Thousand and One Nights. 1 Ju., 1 So., 3 Di. Total 5.

8. Dr. Haynes. — Arabic (second course). The Moallakāt; Motenebbi; Ibn Ḫaldun; the Korān. 2 Di. Total 2.

20*c.* Professor G. F. Moore. — Old Testament: Principles and Practice of Criticism. 2 Di. Total 2.

20*d.* Professor G. F. Moore. — Hebrew Law. 1 Di. Total 1.

Indic Philology.

For Undergraduates and Graduates: —

1*a* [1]*hf.* Dr. Ryder. — Elementary Sanskrit. 2 Gr., 1 Se. Total 3.

1*b* [2]*hf.* Dr. Ryder. — Elementary Sanskrit (continued). 1 Gr., 1 Se. Total 2.

Primarily for Graduates: —

‡2 [1]*hf.* Dr. Ryder. — Advanced Sanskrit (course for rapid reading). 2 Gr. Total 2.

‡3 [2]*hf.* Dr. Ryder. — Advanced Sanskrit (continued). 1 Gr. Total 1.

‡4 [1]*hf.* Professor Lanman. — Advanced Pāli. 1 Gr. Total 1.

‡5 [2]*hf.* Professor Lanman. — Advanced Pāli. 1 Gr. Total 1.

‡20. Professor Lanman. — Advanced special study of selected Sanskrit works, with practice in the use of the manuscripts of the Harvard collection. 1 Gr. Total 1.

Classical Philology.

Primarily for Undergraduates: —

GREEK.

G. Dr. Chase. — Course for Beginners. 1 Ju., 4 So., 3 Fr., 1 Sc., 1 Di. Total 10.

A. Asst. Professor Harris and Dr. Chase. — Homer; Attic Prose. Composition. 1 Ju., 4 So., 13 Fr., 4 Sp. Total 22.

B. Professor H. W. Smyth, Asst. Professors Gulick and Harris. — Greek Literature. Plato; Lysias; Xenophon; Elegiac, Iambic, and Lyric Poets; Euripides. Lectures on the History of Greek Literature. 3 Ju., 8 So., 57 Fr. Total 68.

E hf. Dr. Chase. — Greek Prose Composition (first course).
1 Se., 4 So., 10 Fr. Total 15.

1. Asst. Professor Harris. — Greek Literature. The Period of Athenian Supremacy. Herodotus; Aeschylus; Plutarch; Thucydides; Aristophanes; Sophocles. 1 Ju., 6 So., 7 Fr. Total 14.

2. Professor J. H. Wright and Asst. Professor Clifford H. Moore. — Greek Literature. Aristophanes; Thucydides; Aeschylus; Sophocles.
1 Se., 7 Ju., 18 So. Total 26.

3 *hf.* Asst. Professor Harris. — Greek Prose Composition (second course).
1 Gr., 1 Se., 8 Ju., 6 So. Total 16.

LATIN.

A. Dr. W. W. Baker. — Cicero; Virgil. Composition.
7 So., 20 Fr., 5 Sp., 2 Sc. Total 34.

B. Professor Howard, Associate Professor C. P. Parker, Asst. Professor Clifford H. Moore, and Dr. E. K. Rand. — Latin Literature. Livy; Horace; Terence. 2 Ju., 9 So., 134 Fr., 6 Sp. Total 151.

E hf. Dr. E. K. Rand. — Latin Composition (first course). Translation of English narrative. 1 Gr., 2 Se., 11 So., 12 Fr. Total 26.

1. Professor Minton Warren and Associate Professor C. P. Parker. — Latin Literature. Tacitus; Horace; Catullus.
3 Ju., 27 So., 1 Fr., 1 Sp. Total 32.

2. Associate Professor C. P. Parker and Dr. E. K. Rand. — Latin Literature. General View of Latin Poetry. 1 Ju., 10 So. Total 11.

3 *hf.* Professor Howard. — Latin Composition (second course).
1 Gr., 1 Se., 9 Ju., 7 So., 1 Sp. Total 19.

For Undergraduates and Graduates: —

GREEK.

6. Professor H. W. Smyth and Asst. Professor Gulick. — Greek Literature. Demosthenes; Aeschines; Aeschylus; Sophocles; Aristophanes.
1 Gr., 4 Se., 10 Ju., 1 So. Total 16.

7 *hf.* Professor J. H. Wright. — Greek Prose Composition (third course).
6 Gr., 7 Se. Total 13.

9. Asst. Professor Ropes. — Introduction to the Study of the New Testament.
1 Se., 4 Ju., 1 So., 7 Di. Total 13.

8. Professor J. H. Wright. — Greek Philosophy. Plato; Aristotle.
4 Gr., 10 Se. Total 14.

17 ^{2}*hf.* Asst. Professor Harris. — Greek Literature. Four Plays, with studies of their influence in Art and in the Drama of later ages. For 1902-03: Aeschylus, Sophocles, Euripides, Aristophanes.
1 Gr., 11 Se., 4 Ju., 1 So. Total 17.

10. Asst. Professor Gulick. — The Life of the Ancient Athenians, described and illustrated by the aid of the Literature and of the Monuments.
2 Gr., 31 Se., 22 Ju., 9 So., 4 Sp., 11 Sc. Total 79.

11. Professor J. W. White. — The History of the Greek Drama. Lectures on the Dramatic Art and Literature of the Greeks, with reading and study of the extant plays of the Greek dramatists.
3 Gr., 12 Se., 4 Ju., 1 So., 1 Sp., 1 Sc. Total 22.

Latin.

6. Professor Howard. — Latin Literature. Suetonius; Pliny; Juvenal; Martial. 1 Gr., 3 Se., 17 Ju. Total 21.

13 ^{2}*hf.* Dr. W. W. Baker. — Latin Literature. The Elegiac Poets.
2 Se., 1 So. Total 3.

7 *hf.* Associate Professor C. P. Parker. — Latin Composition (third course).
5 Gr., 7 Se. Total 12.

8. Professors Minton Warren and Morgan. — Latin Literature. Plautus; Cicero; Lucretius. 2 Gr., 10 Se., 2 Ju., 1 Sp. Total 15.

15. Professor Morgan, and Drs. E. K. Rand and W. W. Baker. — The Works of Virgil, with studies of his Sources and of his Literary Influence from his own times to the Renaissance. 4 Gr., 4 Se., 1 Ju. Total 9.

Primarily for Graduates: —

Classical Philology.

25. Asst. Professor Clifford H. Moore. — Proseminary. Introduction to the methods of Criticism and Research, with special reference to the textual criticism and interpretation of Classical Authors. 11 Gr., 1 Se. Total 12.

73 ^{2}*hf.* Professor H. W. Smyth. — The Greek Epigram. 4 Gr. Total 4.

‡66 ^{1}*hf.* Professor Goodwin. — Aeschylus (Agamemnon and Eumenides).
9 Gr., 4 Se., 3 R. Total 16.

38. Professor J. W. White. — The Comedies of Aristophanes.
14 Gr., 1 Se., 1 Ju. Total 16.

‡44. Professor H. W. Smyth. — Thucydides. 5 Gr., 1 R. Total 6.

‡27 ^{1}*hf.* Professor Goodwin. — Aristotle (Politics and parts of the Constitution of Athens). 5 Gr. Total 5.

54 ^{2}*hf.* Asst. Professor Ropes. — The Acts of the Apostles. 1 Sp. Total 1.

68. Professor Minton Warren. — The Comedies of Plautus. 10 Gr. Total 10.

45 ^{1}*hf.* Professor Morgan. — The Early Career of Cicero, from its outset to the end of the prosecution of Verres. 3 Gr. Total 3.

‡46 ^{2}*hf.* Asst. Professor H. E. Burton (Dartmouth College). — Livy.
5 Gr., 1 Se., 2 R. Total 8.

‡39 ^{1}*hf.* Associate Professor C. P. Parker. — Seneca's Philosophy, Science, Ethics, and Descriptions of Roman Life. 1 Gr., 1 So., 1 R. Total 3.

‡70 ^{1}*hf.* Professor C. D. Buck (University of Chicago). — General Introduction to Indo-European Philology. 11 Gr., 1 Se., 1 R. Total 13.

‡71 ^{1}*hf.* Professor C. D. Buck (University of Chicago). — Outlines of the Comparative Grammar of Greek and Latin (Sounds and Inflections).
10 Gr., 1 R. Total 11.

‡21 ^{1}*hf*. Professor H. W. Smyth. — Introduction to Greek Epigraphy. 8 Gr. Total 8.

‡63 ^{2}*hf*. Professor Minton Warren. — Introduction to Latin Epigraphy. 7 Gr., 1 R. Total 8.

58 ^{2}*hf*. Professor Minton Warren. — Introduction to Latin Palaeography. 6 Gr. Total 6.

‡29 ^{1}*hf*. Asst. Professor Clifford H. Moore. — The Religion and Worship of the Greeks. 5 Gr., 2 R. Total 7.

53 ^{2}*hf*. Asst. Professor Gulick.— Greek Mythology. 1 Gr., 1 Se., 1 Ju. Total 3.

26 ^{1}*hf*. Professor Morgan. — The Private Life of the Romans (second course). Investigation of special topics. 1 Gr. Total 1.

‡67 ^{1}*hf*. Professor J. H. Wright. — Pausanias, with special reference to the Monuments of Delphi and Olympia. 3 Gr. Total 3.

‡72 ^{2}*hf*. Asst. Professor H. E. Burton (Dartmouth College). — The Topography of Rome. 4 Gr., 1 R. Total 5.

20. The Seminary of Classical Philology.

Professors Morgan and Howard, Directors for 1902–03. — Training in philological criticism and research. Text-criticism and interpretation of Greek and Latin authors: for 1902–03, Antiphon and Suetonius. 6 Gr. Total 6.

English.

Primarily for Undergraduates: —

A. Professors A. S. Hill and Briggs, Asst. Professor Hurlbut, Mr. Copeland, Drs. Hoyt and Tupper, Messrs. Nutter, Noyes, Reynolds, Ells, Utter, Rideout, Sills, and Aydelotte. — Rhetoric and English Composition. 7 So., 443 Fr., 35 Sp., 144 Sc., 2 Bu. Total 631.

BC hf. Messrs. T. Hall and Hale. — English Composition. 1 Ju., 4 So., 75 Sc. Total 80.

31. Asst. Professor Gardiner, and Messrs. E. H. Wells and Stanton. — English Composition. 3 Se., 9 Ju., 41 So., 20 Fr., 10 Sp., 2 Sc., 1 Bu. Total 86.

22. Professor Briggs, Dr. Tupper, Messrs. Nutter, Rideout, Freund, Arensberg, and Hale. — English Composition. 1 Gr., 17 Se., 39 Ju., 168 So., 50 Fr., 10 Sp., 13 Sc. Total 298.

36 ^{2}*hf*. Mr. Cobb, Dr. Tupper, Messrs. Arensberg and Hale. — English Composition. 6 Se., 4 Ju., 40 So., 23 Fr., 5 Sc., 1 Me. Total 79.

28 *hf*. Professors A. S. Hill, Briggs, and Kittredge, Asst. Professor Baker, and Messrs. T. Hall and J. G. Hart. — English Literature. History and Development of English Literature in outline. 133 Fr., 6 Sp. Total 139.

18. Asst. Professor Baker, and Messrs. T. Hall, Carleton, and Stockton. — The Forms of Public Address. 21 Se., 52 Ju., 45 So., 4 Sp., 1 Sc. Total 123.

30 $^{1\text{ or }2}$*hf*. Asst. Professor Baker and Mr. Carleton. — Debating. 20 Se., 24 Ju., 3 So., 1 Sp., 1 Sc. Total 49.

10 *hf*. Messrs. Winter, Hills, and Willard. — Public Speaking. 9 Se., 21 Ju., 29 So., 1 Fr., 2 Sp., 5 Sc. Total 67.

For Undergraduates and Graduates: —

3a [1]*hf*. Asst. Professor SCHOFIELD. — Anglo-Saxon.
15 Gr., 4 Se., 3 Ju., 3 So., 2 Sp. Total 27.

48 [2]*hf*. Professor KITTREDGE. — The English Language. Studies in the Sources and History of the English Vocabulary.
7 Gr., 11 Se., 9 Ju., 7 So., 4 Sp., 1 Sc. Total 39.

1. Asst. Professor F. N. ROBINSON and Dr. NEILSON. — English Literature. Chaucer. 13 Gr., 6 Se., 2 Ju., 3 So. Total 24.

35. Asst. Professor GARDINER. — English Literature. The English Bible.
4 Gr., 5 Se., 14 Ju., 5 So., 1 Fr., 1 Sp. Total 30.

9 [2]*hf*. Asst. Professor FLETCHER. — English Literature. Spenser.
4 Gr., 10 Se., 4 Ju., 1 So., 2 Sp. Total 21.

2. Professor KITTREDGE. — English Literature. Shakspere (six plays).
22 Gr., 25 Se., 23 Ju., 38 So., 1 Fr., 4 Sp., 3 Sc., 1 Di. Total 117.

11a [1]*hf*. Dr. NEILSON. — English Literature. Bacon.
4 Gr., 13 Se., 12 Ju., 5 So., 1 Fr., 1 Sp., 1 Sc. Total 37.

11b [2]*hf*. Dr. NEILSON. — English Literature. Milton.
7 Gr., 12 Se., 23 Ju., 25 So., 5 Fr., 4 Sp., 5 Sc. Total 81.

42a [1]*hf*. Asst. Professor SCHOFIELD and Mr. TATLOCK. — The Literary History of England from the Norman Conquest to Chaucer.
8 Gr., 30 Se., 19 Ju., 27 So., 4 Fr., 2 Sc. Total 90.

42b [2]*hf*. Asst. Professor SCHOFIELD and Mr. TATLOCK. — The Literary History of England from Chaucer to Elizabeth.
10 Gr., 22 Se., 16 Ju., 36 So., 5 Fr., 3 Sp., 4 Sc. Total 96.

32a [2]*hf*. Dr. NEILSON and Mr. REYNOLDS. — English Literature of the Elizabethan Period. From Tottel's Miscellany to the death of Spenser (1557–1599). 10 Gr., 14 Se., 12 Ju., 27 So., 7 Fr., 4 Sp., 1 Sc. Total 75.

7a [1]*hf*. Mr. COBB and Mr. HALE. — English Literature of the Period of Queen Anne. From the death of Dryden to the death of Swift (1700–1745).
2 Gr., 31 Se., 17 Ju., 27 So., 5 Fr., 3 Sp., 3 Sc. Total 88.

7b [2]*hf*. Dr. MAYNADIER and Mr. WELLS. — English Literature. From the death of Swift to the publication of the Lyrical Ballads (1745–1798).
5 Gr., 26 Se., 20 Ju., 53 So., 3 Fr., 7 Sp., 1 Sc. Total 115.

8a [1]*hf*. Asst. Professor FLETCHER and Mr. NUTTER. — English Literature. From the publication of the Lyrical Ballads to the death of Scott (1798–1832). 3 Gr., 27 Se., 13 Ju., 21 So., 2 Fr., 4 Sp., 2 Sc. Total 72.

34 *hf*. Mr. COPELAND and Mr. REYNOLDS. — English Literature. English Letter Writers. 9 Se., 11 Ju., 28 So., 3 Sp., 4 Sc. Total 55

5a [1]*hf*. Professor A. S. HILL and Dr. MAYNADIER. — English Composition (advanced course). 9 Gr., 13 Se., 7 Ju., 3 So., 1 Sp. Total 33.

Primarily for Graduates: —

19 [2]*hf*. Asst. Professor F. N. ROBINSON. — Historical English Grammar.
7 Gr. Total 7.

16 *hf*. Professor BRIGGS. — History and Principles of English Versification.
5 Gr., 3 Se., 4 Ju., 1 So., 3 Sp. Total 16.

3*b* ^{2}*hf*. Professor Kittredge. — Anglo-Saxon. Béowulf.
15 Gr., 2 Se., 3 Ju., 2 Sp. Total 22.

4. Asst. Professor F. N. Robinson and Dr. Neilson. — Early English. English Literature from 1200 to 1450. 9 Gr. Total 9.

21 ^{1}*hf*. Professor Kittredge. — Early English. The Metrical Romances.
6 Gr. Total 6.

14. Asst. Professor Baker. — English Literature. The Drama from the Miracle Plays to the Closing of the Theatres. 11 Gr., 6 Se., 5 Ju. Total 22.

39 ^{1}*hf*. Asst. Professor Baker. — English Literature. The Drama in England from 1642 to 1900. 8 Gr., 9 Se., 6 Ju., 3 So., 2 Sp. Total 28.

24 ^{1}*hf*. Professor A. S. Hill. — English Literature. Studies in the Poetry of the Nineteenth Century. 4 Gr., 8 Se., 2 Sp. Total 14.

Germanic Languages and Literatures.

GERMAN.

Primarily for Undergraduates: —

A. Drs. Bierwirth, Coar, and Skinner, and Messrs. Lawrence, W. H. Reed, Sturtevant, Wernaer, Dubée, and Grossmann. — Elementary Course.
3 Gr., 6 Se., 7 Ju., 17 So., 272 Fr., 19 Sp., 19 Sc., 1 Di. Total 344.

D. Drs. Bierwirth, Skinner, and Kullmer. — Elementary Course.
4 Fr., 61 Sc., 1 Bu. Total 66.

B. Mr. W. G. Howard and Dr. Jessen. — Elementary Course (5 times a week, counting as two courses). 4 So., 30 Fr., 4 Sp. Total 38.

C. Drs. Coar, Walz, and Skinner. — German Prose and Poetry.
1 Gr., 2 Se., 3 Ju., 6 So., 54 Fr., 3 Sp., 5 Sc. Total 74.

1*a*. Drs. Walz and Coar. — German Prose and Poetry.
1 Gr., 1 Se., 3 Ju., 43 So., 1 Fr., 1 Sp., 1 Sc., 1 Di. Total 52.

1*b*. Dr. Skinner. — German Prose. Subjects in History and Biography.
1 Gr., 4 Ju., 20 So., 3 Fr., 3 Sp., 2 Sc. Total 33.

1*c*. Dr. Jessen and Mr. Seiberth. — German Prose, narrative and descriptive.
3 Ju., 13 So., 6 Fr., 2 Sp., 31 Sc., 1 Bu. Total 56.

Fhf. Dr. Kullmer. — Practice in speaking and writing German (first course).
2 Se., 5 Ju., 12 So., 9 Fr. Total 28.

Hhf. Dr. Bierwirth. — Practice in speaking and writing German (second course). 1 Gr., 1 Se., 1 Ju., 5 So., 2 Fr. Total 10.

2*a*. Mr. W. G. Howard and Dr. Jessen. — Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Lessing, Goethe, and Schiller; German Ballads and Lyrics.
1 Gr., 3 Se., 7 Ju., 16 So., 20 Fr. Total 47.

2*b*. Professor H. S. White and Dr. Kullmer. — Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Selections from the works of Lessing, Goethe, and Schiller; German Ballads and Lyrics.
2 Se., 11 Ju., 26 So., 20 Fr. Total 59.

3 Dr. Bierwirth. — Schiller and his Contemporaries. Lessing; Schiller; Goethe. 1 Se., 10 Ju., 8 So., 8 Fr. Total 27.

4. Professor von Jagemann. — Goethe and his Time.
11 Ju., 6 So., 9 Fr., 1 Sc. Total 27.

GERMAN LITERATURE.

For Undergraduates and Graduates: —

25 *hf.* Professor **Francke** and Mr. **Busse**. — History of German Literature in Outline. 1 Gr., 3 Se., 14 Ju., 19 So., 2 Fr., 1 Sp., 3 Sc. Total 43.

5. Professor **Francke** and Mr. **Busse**. — German Literature of the Classic Period of the Eighteenth Century. 4 Gr., 2 Se., 4 Ju., 22 So., 1 Sp. Total 33.

26*a* ¹*hf.* Mr. W. G. **Howard**. — German Literature in the first half of the Nineteenth Century. Kleist; Uhland; Heine. 3 Se., 4 Ju., 5 So., 1 Sp. Total 13.

26*b* ²*hf.* Mr. W. G. **Howard**. — German Literature in the second half of the Nineteenth Century. The Development of the Novel and the Drama. 1 Gr., 2 Se., 5 Ju., 5 So., 1 Sp. Total 14.

27. Professor H. S. **White**. — Goethe's and Schiller's Minor Poems; with some examination of the sources and of the relation of the poems to the life and intellectual development of each author. 1 Gr., 1 Ju., 1 So., 1 Sp. Total 4.

29. Professor H. S. **White**. — The Life and Writings of Richard Wagner; selections from the texts of Richard Wagner's musical dramas, including Der Fliegende Holländer, Tannhäuser, Lohengrin, Tristan und Isolde, Die Meistersinger, Der Ring des Nibelungen, and Parsifal, with some study of the legendary background, and with illustrations and elucidations from Wagner's other writings. 1 Se., 4 Ju., 4 So., 1 Sp. Total 10.

8. Dr. **Walz**. — German Literature in the Twelfth and Thirteenth Centuries. Nibelungenlied; Kudrun; Hartmann; Wolfram; Walther von der Vogelweide. Translation into modern German. 4 Gr., 1 Se., 1 Ju., 2 So. Total 8.

Primarily for Graduates: —

‡11*a* ¹*hf.* Professor **Francke**. — The early Romantic Movement in Germany, with special reference to its social and political aspects; Novalis; the brothers Schlegel; Tieck. 9 Gr., 5 R. Total 14.

SCANDINAVIAN LITERATURE.

For Undergraduates and Graduates: —

1. Asst. Professor **Schofield**. — Modern Danish and Norwegian Literature. Holberg, Oehlenschläger, Ibsen, Björnson, and other writers. Practice in the spoken language. Lectures on the history of Scandinavian Literature. 1 Gr., 1 Se., 1 Ju., 3 So., 1 Sp., 1 Di. Total 8.

GERMANIC PHILOLOGY.

Primarily for Graduates: —

‡ 12*a* ¹*hf.* Professor **von Jagemann**. Gothic. Introduction to the study of Germanic Philology. General Introduction and Phonology. 17 Gr., 1 Di., 2 R. Total 20.

‡12*b* ²*hf.* Professor **von Jagemann**. — Introduction to the study of Germanic Philology (continued). Morphology, Etymology. 4 Gr., 1 Di. Total 5.

‡14 ^{2}*hf*. Dr. Bierwirth. — Old Saxon. Introduction to Germanic Metrics.
6 Gr. Total 6.

‡15 ^{1}*hf*. Dr. Walz. — Old High German.
7 Gr. Total 7.

‡21. Professor von Jagemann. — History of the German Language.
3 Gr. Total 3.

Seminary Courses in Germanic Languages and Literatures.

Primarily for Graduates : —

‡20*a*. Professor von Jagemann. — Luther's German Writings.
4 Gr., 1 R. Total 5.

‡20*c*. Professor Francke. — Topics in the German Romantic Movement.
10 Gr. Total 10.

Romance Languages and Literatures.

French.

Primarily for Undergraduates : —

A. Asst. Professor C. H. C. Wright, assisted by Messrs. Morrison and Myrick. Elementary Course.
2 Gr., 3 Se., 2 Ju., 9 So., 64 Fr., 12 Sp., 31 Sc., 2 Bu. Total 125.

1*c*. Mr. Morley, assisted by Mr. Whittem. — Reading, translation, grammar, and composition. 8 So., 2 Fr., 2 Sp., 38 Sc. Total 50.

1*b*. Asst. Professor Babbitt and Mr. Morley. — French Prose, historical and general. Translation from French into English.
1 Gr., 4 Ju., 30 So., 61 Fr., 1 Sp., 1 Sc. Total 98.

1*a*. Associate Professor de Sumichrast and Mr. Brun. — Reading, translation, grammar, and composition.
1 Gr., 1 Ju., 17 So., 28 Fr., 2 Sp., 1 Sc. Total 50.

2*c*. Asst. Professor Marcou, Dr. M. A. Potter, and Mr. Morley, assisted by Messrs. N. F. Hall and Whittem. — French Prose and Poetry. Corneille; Racine; Molière; Beaumarchais; Lamartine; Victor Hugo; Alfred de Musset; Balzac. Composition.
1 Se., 13 Ju., 41 So., 93 Fr., 5 Sp., 11 Sc. Total 164.

2*a*. Asst. Professors C. H. C. Wright and Babbitt, and Mr. La Meslée. — French Prose and Poetry. Corneille; Racine; Molière; Victor Hugo; George Sand; Alfred de Musset; Sainte-Beuve. Composition.
1 Se., 9 Ju., 32 So., 70 Fr., 2 Sp., 4 Sc. Total 118.

3 *hf*. Messrs. Brun and La Meslée. — Practice in speaking and writing French (elementary course).
7 Ju., 33 So., 11 Fr., 5 Sc. Total 56.

4 *hf*. Mr. Brun. — Practice in speaking and writing French (intermediate course). 1 Gr., 2 Se., 11 Ju., 15 So., 10 Fr., 3 Sp., 2 Sc. Total 44.

5 *hf*. Mr. Brun. — Practice in speaking and writing French (advanced course).
3 Se., 3 Ju., 5 So., 1 Fr., 1 Sc. Total 13.

For Undergraduates and Graduates : —

6*c*. Professor Grandgent. — General view of French Literature (course conducted in English). 2 Gr., 5 Se., 11 Ju., 15 So., 1 Fr., 1 Sc. Total 35.

6. Associate Professor de Sumichrast and Mr. Brun. — General view of French Literature (course conducted in French).
2 Se., 5 Ju., 22 So., 1 Fr., 1 Sp. Total 31.

14. Asst. Professor Marcou. — French Lyric Poetry from Villon and the Fifteenth Century to the present time.
2 Gr., 1 Se., 1 So. Total 4.

18. Associate Professor de Sumichrast and Mr. La Meslée. — French Life in the Seventeenth and Eighteenth Centuries, described and illustrated by the literature and works of art (course conducted in English).
15 Se., 19 Ju., 21 So., 3 Fr., 1 Sp., 7 Sc. Total 66.

7a ¹*hf*. Associate Professor de Sumichrast. — French Literature in the First Half of the Nineteenth Century. Victor Hugo and the Romanticist movement (course conducted in French). 3 Gr., 9 Se., 3 Ju., 1 So. Total 16.

7b ²*hf*. Associate Professor de Sumichrast. — French Literature in the Second Half of the Nineteenth Century. Victor Hugo and the reaction against the Romanticist movement (course conducted in French).
3 Gr., 9 Se., 3 Ju., 1 Sp. Total 16.

10. Asst. Professor C. H. C. Wright. — French Literature in the Sixteenth Century (course conducted in French). 3 Se., 3 Ju., 1 Sp. Total 7.

ITALIAN.

Primarily for Undergraduates: —

1. Asst. Professor Ford, assisted by Mr. Capotosto. — Elementary Course.
1 Gr., 8 Se., 14 Ju., 11 So., 10 Fr., 1 Sp., 1 Sc. Total 46.

For Undergraduates and Graduates: —

2. Mr. Myrick. — Literature of the Fifteenth and Sixteenth Centuries. Torquato Tasso, Ariosto, Machiavelli, Benvenuto Cellini.
2 Se., 1 Ju., 1 So., 1 Sp. Total 5.

10. Professor Grandgent. — The Works of Dante, particularly the Vita Nuova and the Divine Comedy. 4 Gr., 2 Se., 1 Ju. Total 7.

SPANISH.

Primarily for Undergraduates: —

1. Asst. Professor Ford, Mr. La Meslée, Dr. M. A. Potter, and Mr. Morley, assisted by Mr. N. F. Hall. — Elementary Course.
1 Gr., 9 Se., 18 Ju., 33 So., 37 Fr., 2 Sp., 8 Sc. Total 108.

For Undergraduates and Graduates: —

5. Asst. Professor Ford. — Spanish Prose and Poetry of the Nineteenth Century. Composition. 5 Se., 5 Ju., 6 So., 1 Fr., 2 Sp. Total 19.

2. Asst. Professor Marcou. — Literature of the Sixteenth and Seventeenth Centuries. Cervantes; Lope de Vega; Calderón.
2 Se., 2 Ju., 1 So. Total 5.

Primarily for Graduates: —

3. Asst. Professor Ford. — Early Spanish. — The Poem of the Cid. Spanish Literature to the Fifteenth Century. 6 Gr., 2 Se., 1 So. Total 9.

ROMANCE PHILOLOGY.

Primarily for Graduates: —

3. Professor **Sheldon**. — Old French. Phonology and inflections. The oldest texts. La Chanson de Roland; Chrétien de Troyes; Aucassin et Nicolette. 17 Gr., 2 Se., 1 Ju. Total 20.

4. Professor **Grandgent** and Dr. M. A. **Potter**. — Provençal. Language and literature, with selections from the Poetry of the Troubadours. 6 Gr., 1 So. Total 7.

5 ¹*hf*. Professor **Grandgent**. — Low Latin. 5 Gr. Total 5.

7. Professor **Sheldon**. — Anglo-French and the French Element in English. 1 Ju. Total 1.

Comparative Literature.

For Undergraduates and Graduates: —

1. Dr. M. A. **Potter**. — The History of Latin Literature in the Middle Ages (beginning with the Fourth Century), and its relations to Ancient and Modern Literature. 1 Gr. Total 1.

2. Professor **Sheldon**. — Mediaeval Literature in the vulgar tongues, with especial reference to the influence of France and Provence. 1 Gr., 1 Se., 1 So. Total 3.

3. Asst. Professor **Fletcher**. — Tendencies of European Literature during the Renaissance. 4 Gr., 3 Se. Total 7.

Primarily for Graduates: —

12. Asst. Professor **Babbitt**. — Literary Criticism since the Sixteenth Century. 2 Gr., 1 Se. Total 3.

COURSE OF SPECIAL STUDY.

20. An opportunity was afforded to competent Graduate Students to pursue, under the guidance of instructors, original investigation in special topics. 1 Gr. Total 1.

Celtic.

Primarily for Graduates: —

1 ¹*hf*. Asst. Professor F. N. **Robinson**. — Old Irish. General introduction to Celtic Philology. 1 Gr. Total 1.

Slavic Languages.

For Undergraduates and Graduates: —

1*a*. Asst. Professor **Wiener**. — Russian. 2 Gr., 2 Se., 1 Jr., 2 So. Total 7.

1*b*. Asst. Professor **Wiener**. — Russian. Literature of the Nineteenth Century. Pushkin, Gogol, Turgenev, Tolstoy. Composition. 3 Gr. Total 3.

4 *hf*. Asst. Professor **Wiener**. — Introduction to the History of Russian Literature. Lectures in English, and collateral reading of representative works. 3 Se., 8 Ju., 17 So., 2 Fr., 1 Sp., 4 Sc. Total 35.

History and Government.

HISTORY.

Primarily for Undergraduates: —

1. Asst. Professor **Coolidge**, and Messrs. **Fryer**, **Shipman**, **Cabot**, and **Leland**. — Mediaeval and Modern European History (introductory course). 2 Jr., 56 So., 395 Fr., 19 Sp., 16 Sc. Total 488.

For Undergraduates and Graduates: —

3. Professor **Haskins**. — History of Rome to the Reign of Diocletian.
3 Gr., 2 Ju., 1 So. Total 6.

4. Professor **Haskins**. — History of Mediaeval Institutions. 4 Gr. Total 4.

6. Professor **Emerton**. — General Church History to the End of the Seventeenth Century. 2 Gr., 2 Se., 3 Ju., 1 Sp., 10 Di. Total 18.

8. Professor **Gross**. — History of France to the Reign of Francis I.
2 Gr., 1 Ju., 4 So., 1 Sc. Total 8.

9. Professor **Gross**. — Constitutional History of England to the Sixteenth Century. 8 Gr., 10 Se., 12 Ju., 2 So., 3 Sp. Total 35.

11. Dr. **Merriman**. — History of England during the Tudor and Stuart Periods.
12 Gr., 18 Se., 19 Ju., 14 So., 1 Sc. Total 64.

12*a* ^{1}*hf.* Professor **Macvane** and Mr. **Shearer**. — English History from the Revolution of 1688 to the Reform of Parliament.
3 Gr., 43 Se., 16 Ju., 22 So., 1 Fr., 4 Sp., 2 Sc. Total 91.

12*b* ^{2}*hf.* Professor **Macvane** and Mr. **Shearer**. — English History since the Reform of Parliament.
2 Gr., 17 Se., 19 Ju., 24 So., 2 Fr., 3 Sp., 3 Sc., 1 Di. Total 71.

16*a* ^{1}*hf.* Professor **Macvane** and Mr. H. H. **Morse**. — History of Continental Europe from the Peace of Utrecht to the Fall of Napoleon I.
6 Gr., 22 Se., 31 Ju., 80 So., 3 Fr., 5 Sp., 2 Sc. Total 149.

16*b* ^{2}*hf.* Professor **Macvane** and Mr. H. H. **Morse**. — History of Continental Europe since the Fall of Napoleon I.
3 Gr., 14 Se., 29 Ju., 84 So., 4 Fr., 2 Sp., 1 Sc. Total 137.

29 ^{2}*hf.* Dr. **Merriman**. — Spanish History to the Death of Philip II.
10 Se., 21 Ju., 34 So., 7 Fr., 2 Sp., 2 Sc. Total 76

15. Asst. Professor **Coolidge**. — History of North-Eastern Europe (Denmark, Sweden, Poland, Russia) from 1453 to 1795.
5 Gr., 1 Se., 3 Ju., 2 So., 1 Sc. Total 12.

10. Professor **Channing**, assisted by Mr. **Kimball**. — American History to 1783.
5 Gr., 17 Se., 38 Ju., 109 So., 8 Fr., 5 Sp., 4 Sc., 1 Di. Total 187.

13. Professor **Channing**, assisted by Messrs. **Cushing** and **Dorman**. — Constitutional and Political History of the United States (1783–1865).
4 Gr., 39 Se., 95 Ju., 56 So., 9 Sp., 6 Sc. Total 209.

Primarily for Graduates: —

‡17 *hf.* Professor J. H. **Wright**. — Introduction to Greek Constitutional History.
4 Gr., 2 R. Total 6.

21. Professor **Haskins**. — Introduction to the Sources of Mediaeval History.
1 Gr. Total 1.

25. Asst. Professor **Coolidge**. — General History of Russia (advanced course).
2 Gr. Total 2.

26. Professor **Emerton**. — History of Christian Thought, considered in its relation to the prevailing philosophy of each period, from the earliest times to the Eighteenth Century. 2 Gr., 1 Ju., 8 Di. Total 11.

COURSES OF RESEARCH.

20*d*. Asst. Professor **COOLIDGE**. — Recent History of Europe. 3 Gr. Total 3.

20*e*. Professor **CHANNING**. — American History and Institutions.
7 Gr., 1 So., 1 Law, 1 Di. Total 10.

GOVERNMENT.

Primarily for Undergraduates: —

1. Professor **LOWELL**, assisted by Messrs. **GEORGE**, **L. K. CLARK**, **G. H. ROBERTS**, and **T. H. REED**. — Constitutional Government (elementary course). 1 Gr., 2 Se., 5 Ju., 137 So., 257 Fr., 18 Sp., 22 Sc. Total 442.

For Undergraduates and Graduates: —

4. Mr. **A. L. RICHARDS**. — Elements of International Law.
2 Gr., 31 Se., 32 Ju., 12 So., 1 Sp., 1 Sc., 1 Law. Total 80.

16*a* ¹*hf*. Mr. **C. S. HAMLIN**, and Messrs. **F. M. ROBERTS**, **DORETY**, **T. P. HILL**, and **HEILBORN**. — Administration of the Government of the United States.
5 Gr., 178 Se., 192 Ju., 25 So., 11 Sp., 19 Sc., 1 Law. Total 431.

16*b* ²*hf*. Mr. **F. J. STIMSON**, and Messrs. **F. M. ROBERTS**, **DORETY**, **T. P. HILL**, and **HEILBORN**. — Tendencies of American Legislation.
3 Gr., 120 Se., 154 Ju., 52 So., 10 Sp., 15 Sc. Total 354.

Primarily for Graduates: —

10. Professor **LOWELL**. — Modern English Government. Studies in the existing political systems and in the influence of political parties.
9 Gr., 6 Se., 9 Ju., 1 So., 1 Sp. Total 26.

14. Professor **GRAY**. — Constitutional Law in the United States.
1 Ju. Total 1.

COURSE OF RESEARCH.

‡20*a*. Professor **MACVANE**. — Municipal Government.
2 Gr., 2 Se., 1 So., 1 R. Total 6.

Economics.

Primarily for Undergraduates: —

1. Drs. **ANDREW**, **SPRAGUE**, and **MIXTER**, and Messrs. **BEARDSLEY**, **CUSTIS**, and **MONTAGUE**. — Outlines of Economics.
2 Gr., 25 Se., 108 Ju., 270 So., 39 Fr., 26 Sp., 44 Sc. Total 514.

For Undergraduates and Graduates: —

2. Professor **CARVER**. — Economic Theory.
5 Gr., 8 Se., 7 Ju., 3 So., 1 Sp., 1 Sc. Total 25.

3. Professors **CARVER** and **RIPLEY**. — Principles of Sociology. Theories of Social Progress. 8 Gr., 17 Se., 11 Ju., 3 So., 5 Sp. Total 44.

14. Professor **CARVER**. — Methods of Social Reform. Socialism, Communism, the Single Tax, etc. 2 Gr., 8 Se., 2 Ju., 1 So., 1 Sp., 1 Di. Total 15.

10 ^{1}*hf*. Dr. Gay. — The Mediaeval Economic History of Europe.
6 Gr., 1 Se., 2 Ju., 6 So., 1 Sp. Total 16.

11 ^{2}*hf*. Dr. Gay. — The Modern Economic History of Europe (from 1500).
7 Gr., 1 Se., 5 Ju., 4 So., 1 Sp. Total 18.

17. Professor Ripley and Mr. Meyer. — The Economic Organization and Resources of European Countries.
2 Gr., 2 Se., 3 Ju., 1 So., 1 Sc. Total 9.

6. Dr. Sprague. — The Economic History of the United States.
1 Gr., 36 Se., 59 Ju., 15 So., 4 Sp., 4 Sc., 1 Di. Total 120.

9. Professor Ripley. — Problems of Labor and Industrial Organization.
3 Gr., 26 Se., 55 Ju., 17 So., 6 Sp., 5 Sc. Total 112.

4 *hf*. Professor Ripley. — Statistics. Theory, method, and practice.
10 Gr., 2 Se., 2 Ju., 1 Sc. Total 15.

5 ^{1}*hf*. Mr. Meyer. — Railways and other Public Works under Public and Corporate Management.
1 Gr., 30 Se., 14 Ju., 5 So., 1 Fr., 1 Sp., 7 Sc., 1 Law. Total 60.

8*a* ^{1}*hf*. Dr. Andrew. — Money. A general survey of currency legislation, experience, and theory in recent times.
4 Gr., 34 Se., 40 Ju., 14 So., 1 Fr., 3 Sp., 3 Sc. Total 99.

8*b* ^{2}*hf*. Dr. Sprague. — Banking and the History of the leading Banking Systems. 2 Gr., 38 Se., 52 Ju., 27 So., 1 Fr., 4 Sp., 9 Sc. Total 133.

12*a* ^{1}*hf*. Dr. Sprague. — International Trade and International Payments.
1 Gr., 3 Se., 5 Ju., 1 So. Total 10.

12*b* ^{2}*hf*. Dr. Andrew. — History and Theory of Commercial Crises.
2 Gr., 9 Se., 19 Ju., 5 So., 2 Sp. Total 37.

7*b* ^{1}*hf*. Dr. Durand. — The Theory and Methods of Taxation, with special reference to local taxation, in the United States.
3 Gr., 13 Se., 4 Ju., 1 Sp. Total 21.

16 ^{2}*hf*. Professor Gardner (Brown University). — The Financial History of the United States. 1 Gr., 11 Se., 13 Ju., 2 So., 1 Sc. Total 28.

18 ^{1}*hf*. Mr. W. M. Cole. — The Principles of Accounting.
1 Gr., 28 Se., 11 Ju., 3 So., 3 Sc. Total 46.

21. Mr. Wyman. — Principles of Law in their application to Industrial Problems.
4 Gr., 33 Se., 13 Ju., 2 So., 6 Sc. Total 58.

Primarily for Graduates: —

19 ^{2}*hf*. Professor Wambaugh. — A General View of Insurance.
1 So., 1 Sc. Total 2.

22 ^{2}*hf*. Dr. Gay. — Outlines of the Development of Economic Thought in Germany in the Nineteenth Century. 3 Gr., 1 Se. Total 4.

Course of Research.

20*a*. Dr. Mixter. — The History of English Economic Theory from Adam Smith to John Stuart Mill. 3 Gr., 2 Se. Total 5.

20. The Seminary in Economics.

Competent students were guided in investigation, undertaken independently or in connection with courses primarily for graduates, and the results were presented for discussion. 7 Gr., 4 Se. Total 11.

History of Religions.

2. Professor G. F. Moore. — History of Religions in Outline. *First half-year:* The Religions of China and Japan, Egypt, Babylonia and Assyria, and the Western Semites (including Judaism and Mohammedanism). *Second half-year:* The Religions of India, Persia, the Greeks, Romans, Germans, and Celts; Christianity.
2 Gr., 16 Se., 11 Ju., 10 So., 3 Fr., 1 Sp., 1 Sc., 13 Di. Total 57.

Philosophy.

Primarily for Undergraduates: —

1*a*. Professors Royce and Münsterberg. — General Introduction to Philosophy. Logic. Psychology.
1 Gr., 5 Se., 85 Ju., 96 So., 37 Fr., 13 Sp., 14 Sc. Total 251.

1*b*. Asst. Professor Santayana and Dr. Perry. — Outlines of the History of Philosophy, Ancient and Modern.
1 Gr., 1 Se., 45 Ju., 47 So., 7 Fr., 8 Sp., 8 Sc., 1 Med., 1 Bu. Total 119.

For Undergraduates and Graduates: —

2 ^{1}*hf*. Dr. Perry. — Advanced Psychology.
6 Gr., 4 Se., 1 Ju., 1 So., 2 Sp., 1 Sc. Total 15.

14 ^{1}*hf*. Dr. Holt. — Experimental Psychology (elementary laboratory course).
4 Gr., 3 Se., 1 Ju., 1 Sp., 1 Sc. Total 10.

14*a* ^{2}*hf*. Dr. Yerkes. — Comparative Psychology. The Mental Life of Animals.
5 Gr., 9 Se., 3 Ju., 5 So., 1 Fr., 1 Sp., 1 Sc. Total 25.

5. Professor Peabody, assisted by Mr. Ireland. — The Ethics of the Social Questions. The problems of Poor-Relief, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory.
5 Gr., 60 Se., 37 Ju., 15 So., 5 Sp., 4 Sc., 8 Di. Total 134.

10*a* ^{1}*hf*. Asst. Professor Santayana. — Philosophy of History. Ideals of Society, Science, and Religion.
5 Gr., 28 Se., 15 Ju., 3 So., 1 Fr., 5 Sp., 1 Di. Total 58.

10 ^{2}*hf*. Asst. Professor Santayana. — Aesthetics. The Philosophy of Art, with a survey of aesthetic theories.
5 Gr., 26 Se., 24 Ju., 12 So., 2 Fr., 4 Sp., 2 Sc., 2 Di. Total 77.

9 ^{1}*hf*. Professor Royce. — Metaphysics. The Fundamental Problems of Theoretical Philosophy. Realism and Idealism; Freedom, Teleology, and Theism. 13 Gr., 10 Se., 1 Ju., 5 Di. Total 29.

3. Professor James and Dr. Miller. — The Philosophy of Nature, with especial reference to Man's place in Nature. The Fundamental Conceptions of Science; the relation of Mind and Body; Evolution.
13 Gr., 24 Se., 12 Ju., 3 So., 3 Sp., 2 Di. Total 57.

12. Asst. Professor Santayana. — Greek Philosophy, with especial reference to Plato.
7 Gr., 10 Se., 4 So., 2 Sp., 2 Di. Total 25.

11*a* ^{1}*hf*. Dr. Perry. — Descartes, Spinoza, and Leibnitz.
2 Gr., 6 Se., 2 Sp. Total 10.

11*b* ^{2}*hf*. Dr. Perry. — The History of English Philosophy from Locke to Hume.
3 Gr., 7 Se., 4 Ju., 3 So., 1 Fr., 4 Sp. Total 22.

7 ^{2}*hf*. Professor Palmer. — History of English Ethics.
6 Gr., 11 Se., 2 Ju., 2 So., 3 Sp., 1 Di. Total 25.

16. Dr. Miller. — Ethical Ideals of the Nineteenth Century.
2 Gr., 4 Se., 5 Ju., 4 Sp., 1 Di. Total 16.

17. Professor E. C. Moore. — History of Christian Thought since Kant.
1 Gr., 1 Sp., 9 Di. Total 11.

Seminary Courses.

Primarily for Graduates: —

‡20*a*. Professor Münsterberg, Dr. Holt, and Dr. Yerkes. — Psychological Laboratory. Experimental investigations.
15 Gr., 2 Se. Total 17.

20*b*. Professor Münsterberg. — Psychological Seminary. The Psychology of Aesthetical, Ethical and Logical Processes.
17 Gr. Total 17.

‡20*c*. Professor Royce and Dr. R. C. Cabot. — Metaphysical Seminary. The Problems of Logic. Studies of various fundamental conceptions of Philosophy and of Science.
9 Gr., 3 R. Total 12.

‡20*d* ^{2}*hf*. Professor Palmer. — Ethical Seminary. Systematization of Ethics.
6 Gr., 1 Se., 1 Sp., 1 Di. Total 9.

‡20*g*. Dr. Miller. — Seminary in the History of Modern Philosophy. Modern Pantheism, with especial reference to Spinoza and his influence.
4 Gr., 1 Se., 1 Sp., 1 Di. Total 7.

Education.

For Undergraduates and Graduates: —

1. Mr. A. O. Norton. — The History of Educational Theories and Practices.
7 Gr., 4 Se., 11 Ju., 5 So., 3 Sp., 7 Sc. Total 37.

2*a* ^{1}*hf*. Professor Hanus. — Introduction to the Study of Education. Discussion of Educational Principles.
11 Gr., 17 Se., 8 Ju., 9 So., 2 Sp., 6 Sc. Total 53.

2*b* ^{2}*hf*. Professor Hanus. — The Development of Schools and School Systems in America, more particularly in Massachusetts. Contemporary Tendencies and Problems.
1 Gr., 5 Se., 2 Ju., 1 Sc. Total 9.

5 ^{1}*hf*. Mr. A. O. Norton. — The Education of the Individual. Historical and critical study of modern views.
5 Se., 1 Ju., 1 So., 10 Sc. Total 17.

Primarily for Graduates: —

‡3. Professor Hanus, assisted by Mr. A. O. Norton. — Organization and Management of Public Schools and Academies. Supervision, Courses of Study, and Instruction.
10 Gr., 10 Se., 1 Sp., 12 Sc., 1 Law, 9 R. Total 43.

‡10*a* ²*hf*. Associate Professor C. P. PARKER. — The Methods and Equipment of a Teacher of Classics in Secondary Schools.
3 Gr., 4 Se., 2 Sp., 3 R. Total 12.

10*c* ¹*hf*. Mr. SNOW. — The Methods and Equipment of a Teacher of French in Secondary Schools. 1 Gr., 4 Se., 1 Ju. Total 6.

SEMINARY COURSE.

‡20*a*. Professor HANUS. — Pedagogical Seminary. Contemporary Problems in Education. 10 Gr., 3 R. Total 13.

The Fine Arts.

Primarily for Undergraduates: —

1. Professor CHARLES H. MOORE, assisted by Mr. MOWER. — Principles of Delineation, Color, and Chiaroscuro, with some consideration of historic forms of art, and the conditions which have influenced them.
1 Gr., 3 Se., 8 Ju., 11 So., 20 Fr., 4 Sp., 19 Sc., 1 Bu. Total 67.

2. Professor CHARLES H. MOORE. — Principles of Design in Architecture, Sculpture, and Painting, as exemplified in the Arts of past ages.
1 Gr., 2 Se., 4 So., 1 Fr., 4 Sc. Total 12.

For Undergraduates and Graduates: —

4. Professor CHARLES H. MOORE and an assistant. — The Fine Arts of the Middle Ages and the Renaissance.
1 Gr., 41 Se., 72 Ju., 65 So., 9 Fr., 11 Sp., 14 Sc. Total 213.

5*a* ²*hf*. Dr. VON MACH. — Greek Sculpture.
1 Gr., 6 Se., 18 Ju., 17 So., 7 Fr., 3 Sp., 5 Sc., 1 Law. Total 58.

6*a* ²*hf*. Dr. VON MACH. — The Sculpture of the Renaissance in Italy.
24 Se., 19 Ju., 9 So., 2 Sp., 1 Sc. Total 55.

Primarily for Graduates: —

‡20*b*. Professor CHARLES H. MOORE. — History and Principles of Engraving.
1 Gr., 1 Se., 1 Sp. Total 3.

‡20*c* ¹*hf*. Dr. CHASE. — Classical Archaeology (advanced course). The Topography and the Monuments of Ancient Athens. 1 Gr., 1 Ju. Total 2.

Architecture.

The courses in Architecture are intended primarily for students in the Lawrence Scientific School, and only Courses 1a, 1b, and 1c may be counted towards the degree of A.B.

1*a*. Professor H. L. WARREN, assisted by Messrs. SWAN and LORCH. — Technical and Historical Development of the Ancient Styles, with especial reference to Classic Architecture.
1 Gr., 5 Se., 2 Ju., 3 So., 22 Sc., 2 Bu. Total 35.

1*b*. Professor H. L. WARREN, assisted by Mr. LORCH. — Technical and Historical Development of the Mediaeval Styles of Architecture.
2 Gr., 5 Se., 2 Ju., 2 So., 9 Sc. Total 20.

2*a*. Professor H. L. WARREN, and Messrs. NEWTON and SWAN, assisted by Mr. LORCH. — Elementary Architectural Drawing. The Orders.
2 Gr., 3 Se., 1 Ju., 19 Sc., 2 Bu. Total 27.

3*a*. Professor H. L. **Warren**, assisted by Mr. **Swan**. — Freehand Drawing. 1 Gr., 1 Se., 11 Sc. Total 13.

3*b*. Professor H. L. **Warren**, assisted by Mr. **Swan**. — Freehand Drawing (second course). 1 Gr., 1 Se., 12 Sc. Total 14.

3*c*. Professor H. L. **Warren** and Mr. **Newton**. — Freehand Drawing (third course). 2 Gr., 5 Sc. Total 7.

4*a*. Professor H. L. **Warren** and Mr. **Newton**, assisted by Mr. **Swan**. — Elementary Architectural Design. 1 Gr., 1 Se., 1 So., 8 Sc., 1 Bu. Total 12.

4*b*. Professor H. L. **Warren** and Mr. **Newton**. — Architectural Design (second course). 1 Gr., 5 Sc. Total 6.

4*c*. Professor H. L. **Warren** and Mr. **Newton**. — Architectural Design (third course). 4 Sc. Total 4.

5 [2]*hf*. Messrs. **Newton** and **Swan**. — Building Construction: Carpentry. 2 Gr., 1 So., 12 Sc. Total 15.

6 *hf*. Mr. **Garbutt**. — Modelling. 1 Gr., 5 Sc. Total 6.

7. Dr. **Ross**, assisted by Mr. H. H. **Clark**. — Theory of Design. Pure Design (Balance, Rhythm, Harmony). 4 Gr., 4 Se., 1 Ju., 10 Sc. Total 19.

Primarily for Graduates: —

4*d*. Professor H. L. **Warren** and Mr. **Newton**. — Architectural Design (advanced course). 3 Gr. Total 3.

Course of Research.

20. Professor H. L. **Warren**. — Competent Graduate Students and others who satisfied the instructor of their fitness to pursue such work were directed in the study of Special Periods in the History of Architecture. 3 Gr. Total 3.

Optional Course.

Mr. H. D. **Murphy**. — A Course in Drawing from the Life.

Landscape Architecture.

1. Messrs. **Olmsted** and **Shurtleff**, assisted by Mr. **Pray**. Occasional lectures by Professors **Goodale** and **Shaler**. — History and Principles of Landscape Design. 2 Gr., 7 Se., 6 Ju., 10 So., 1 Sp., 10 Sc., 2 Bu. Total 38.

2. Messrs. **Olmsted** and **Shurtleff**, assisted by Mr. **Pray**. — Practice in Landscape Design (first course). 1 Gr., 2 Sc. Total 3.

3. Messrs. **Olmsted** and **Shurtleff**, assisted by Mr. **Pray**. — Practice in Landscape Design (second course). 2 Sc., 1 Bu. Total 3.

Music.

For Undergraduates and Graduates: —

1. Asst. Professor **Spalding**. — Harmony. 1 Se., 6 Ju., 6 So., 22 Fr., 3 Sp., 2 Sc., 1 Law. Total 41.

2. Asst. Professor **Spalding**. — Counterpoint. 1 Gr., 3 Ju., 10 So. Total 14.

2*a hf*. Asst. Professor Spalding. — Vocal Counterpoint, with analysis of choral works of the great composers. 1 Se., 4 Ju., 2 So. Total 7.

3. Professor Paine. — History of Music.
20 Se., 15 Ju., 27 So., 7 Fr., 3 Sp., 3 Sc. Total 75.

4 *hf*. Asst. Professor Spalding. — Musical Form, with analysis of the works of the great composers. 2 Se., 4 Ju., 5 So. Total 11.

Primarily for Graduates : —

‡5. Professor Paine. — Canon and Fugue. Free Thematic Music.
1 Se., 2 Ju., 2 So., 1 R. Total 6.

7. Professor Paine. — Instrumentation. 3 Ju., 1 So. Total 4.

Mathematics.

Primarily for Undergraduates : —

F. Dr. Bouton and Mr. Whittemore. — Trigonometry and Plane Analytic Geometry. 3 Se., 3 Ju., 18 So., 75 Fr., 4 Sp., 1 Sc. Total 104.

A [1]*hf*. Dr. E. V. Huntington. — Logarithms. Plane and Spherical Trigonometry. 4 Se., 2 Ju., 9 So., 14 Fr., 3 Sp., 3 Sc. Total 35.

B [2]*hf*. Asst. Professor Bôcher. — Plane Analytic Geometry (elementary course). 6 So., 11 Fr., 1 Sp., 3 Sc. Total 21.

C. Professor Byerly. — Plane and Solid Analytic Geometry (extended course).
3 Se., 2 Ju., 6 So., 10 Fr., 1 Sp., 2 Sc. Total 24.

D [2]*hf*. Dr. E. V. Huntington. — Algebra.
1 Se., 4 Ju., 13 So., 20 Fr., 4 Sp., 5 Sc. Total 47.

E [1]*hf*. Dr. Bouton and Mr. Ransom— Solid Geometry.
2 Se., 2 Ju., 9 So., 26 Fr., 2 Sp., 19 Sc. Total 60.

G [2]*hf*. Dr. Bouton. — Descriptive Geometry.
1 Gr., 2 Se., 3 Ju., 3 So., 2 Fr., 2 Sc. Total 13.

2. Professor Byerly. — Differential and Integral Calculus (first course).
4 Gr., 6 Se., 5 Ju., 27 So., 1 Sp., 4 Sc. Total 47.

4. Mr. Whittemore. — The Elements of Mechanics.
8 Gr., 3 Se., 3 Ju., 1 So., 1 Sc. Total 16.

For Undergraduates and Graduates : —

3. Asst. Professor Bôcher. — Introduction to Modern Geometry and Modern Algebra. 8 Gr., 1 Se., 3 Ju., 3 So., 2 Sc. Total 17.

5. Asst. Professor Osgood. — Differential and Integral Calculus (second course). 7 Gr., 1 Se., 3 Ju., 1 So., 1 Sp. Total 13.

8 [1]*hf*. Professor Byerly. — Dynamics of a Rigid Body. 5 Gr., 1 Se. Total 6.

12 [1]*hf*. Asst. Professor Bôcher. — Infinite Series and Products.
8 Gr., 2 Se., 1 Ju., 1 So. Total 12.

14*b* [2]*hf*. Asst. Professor Osgood. — Algebra. Galois's Theory of Equations.
7 Gr., 1 Se. Total 8.

Primarily for Graduates : —

‡13. Asst. Professor Osgood. — The Theory of Functions (introductory course).
3 Gr., 2 Se., 3 R. Total 8.

‡7*a*. Professor J. M. Peirce. — The Theory of Triangular Coördinates and Algebraic Plane Curves, with special study of the properties of Cubics.
1 Gr., 2 So., 2 R. Total 5.

‡22 ¹*hf*. Mr. Whittemore. — Introduction to the Differential Geometry of Curves and Surfaces. 2 Gr., 1 Se., 1 R. Total 4.

‡9. Professor J. M. Peirce. — The Calculus of Quaternions (second course); including the study by Quaternions of the Dynamics of Particles and Rigid Bodies. 1 Se., 1 Ju., 2 R. Total 4.

‡10. Professor Byerly. — Trigonometric Series. Introduction to Spherical Harmonics. The Potential Function. 5 Gr., 1 Se., 1 R. Total 7.

‡15. Dr. Bouton. — Differential Equations, with an introduction to Lie's Theory of Continuous Groups. 5 Gr., 1 R. Total 6.

‡17 ¹*hf*. Asst. Professor Osgood. — The Theory of Functions (advanced course): Riemann's Theory of Functions. 4 Gr. Total 4.

‡31 ²*hf*. Professor Bôcher. — The Theory of Functions (advanced course): Definite Integrals. 6 Gr. Total 6.

‡30 ¹*hf*. Asst. Professor Bôcher. — Introduction to Partial Differential Equations. 3 Gr., 1 R. Total 4.

‡21 ¹*hf*. Professor J. M. Peirce.—The Calculus of Probabilities. 1 Gr. Total 1.

‡21*a* ²*hf*. Professor J. M. Peirce. — The Algebra of Logic.
5 Gr., 1 Se., 2 Ju., 1 So., 1 R. Total 10.

Courses of Reading and Research.

‡20*e*. Asst. Professor Osgood. — Selected Topics in the Theory of Functions.
1 Gr. Total 1.

‡20*f*. Asst. Professor Bôcher. — Selected Topics in the Theory of Differential Equations. 2 Gr. Total 2.

Astronomy.

Primarily for Undergraduates: —

1 ¹*hf*. Asst. Professor Willson and Mr. J. F. Cole. — Descriptive Astronomy.
21 Se., 20 Ju., 9 So., 4 Fr., 20 Sc. Total 74.

2 ²*hf*. Asst. Professor Willson and Mr. J. F. Cole. — Practical Astronomy. Application of Astronomy to Navigation and Exploration.
1 Gr., 1 Se., 5 Ju., 3 So., 3 Fr., 3 Sc. Total 16.

For Undergraduates and Graduates: —

3. Asst. Professor Willson. — Practical Astronomy.
3 Gr., 1 Se., 1 So., 1 Sc. Total 6.

Engineering.

The courses in Engineering are intended primarily for students in the Lawrence Scientific School, but many of them may be counted towards the degree of A.B. The Catalogue shows what courses may be so counted.

1*a* ¹*hf*. Asst. Professor Love, Messrs. Ashton and Frizell, and Dr. E. V. Huntington. — Algebra. 3 Se., 3 Ju., 9 So., 11 Fr., 119 Sc. Total 145.

1b$^{1 \text{ or } 2}$*hf.* Asst. Professor Love, Messrs. Ashton and Frizell, and Dr. E. V. Huntington. — Trigonometry.
3 Se., 6 Ju., 13 So., 13 Fr., 107 Sc. Total 142.

1d^{2}*hf.* Asst. Professor Love, Messrs. Ashton and Frizell, and Dr. E. V. Huntington. — Analytic Geometry.
2 Se., 7 Ju., 12 So., 11 Fr., 117 Sc. Total 149.

1c. Asst. Professor Love, Messrs. Ashton and Frizell, and Dr. E. V. Huntington. — Differential and Integral Calculus.
1 Se., 7 Ju., 7 So., 73 Sc. Total 88.

1f^{1}*hf.* Asst. Professor Love. — Solid Analytic Geometry. Integral Calculus and Differential Equations. 3 Sc. Total 3.

3a. Messrs. Kennedy, A. E. Norton, Meem, Durant, and Carroll. — Mechanical Drawing.
3 Gr., 8 Se., 14 Ju., 21 So., 29 Fr., 115 Sc. Total 190.

3b^{1}*hf.* Mr. Moyer. — Descriptive Geometry.
1 Gr., 6 Se., 4 Ju., 4 So., 52 Sc. Total 67.

3d^{2}*hf.* Mr. Kennedy. — Mechanism. Study of Gearing and Mechanical Movements. 2 Se., 4 Ju., 4 So., 47 Sc. Total 57.

3e^{2}*hf.* Mr. Moyer. — Stereotomy, Shades, Shadows, and Perspective.
1 Gr., 2 Se., 2 So., 4 Sc. Total 9.

4a. Mr. Turner and assistants. — Plane Surveying. (See page 88.)
1 Gr., 6 Se., 21 Ju., 21 So., 11 Fr., 2 Sp., 52 Sc. Total 114.

4c. Mr. Turner and assistants. — Geodetic Surveying. (See page 88.)
1 Gr., 3 Se., 12 Ju., 12 So., 8 Fr., 32 Sc. Total 68.

4d. Mr. Turner and assistants. — Railroad Surveying. (See page 88.)
1 Gr., 4 Se., 12 Ju., 13 So., 8 Fr., 33 Sc. Total 71.

10a. Asst. Professor Burke and Mr. Turner. — Chipping, filing, and fitting. (See page 88.) 1 Gr., 2 So., 1 Fr., 21 Sc. Total 25.

10b. Asst. Professor Burke and Mr. Turner. — Blacksmithing. (See page 88.)
1 Gr., 2 So., 1 Fr., 20 Sc. Total 24.

10c. Asst. Professor Burke and Mr. Turner. — Pattern-making and Foundry Practice. (See page 88.) 1 Gr., 2 So., 1 Fr., 21 Sc. Total 25.

10e. Asst. Professor Burke and Mr. Turner. — Machine Shop Practice. (See page 88.) 1 Gr., 2 So., 1 Fr., 18 Sc. Total 22.

For Undergraduates and Graduates : —

5b^{1}*hf.* Asst. Professor Johnson and Mr. Moyer. — Elementary Statics. Graphic and Algebraic Methods.
2 Gr., 6 Se., 11 Ju., 5 So., 91 Sc. Total 115.

5d^{2}*hf.* Asst. Professor Johnson and Mr. Moyer. — Resistance of Materials (introductory course). Elementary Structural Design.
2 Gr., 4 Se., 10 Ju., 3 So., 66 Sc. Total 85.

5a. Professor Hollis, and Messrs. H. J. Hughes and Fox. — Applied Mechanics. 1 Gr., 3 Se., 4 Ju., 49 Sc. Total 57.

5c ^{1}*hf.* Professor Hollis. — Resistance of Materials (second course).
2 Gr., 1 Se., 1 Ju., 22 Sc. Total 26.

6a ^{2}*hf.* Mr. H. J. Hughes. — Hydraulics and Hydraulic Motors.
2 Gr., 2 Se., 2 Ju., 36 Sc. Total 42.

6c ^{1}*hf.* Mr. H. J. Hughes. — Water Supply and Sanitary Engineering.
2 Gr., 16 Sc., 3 Bu. Total 21.

6d ^{2}*hf.* Mr. H. J. Hughes. — Canals, Rivers, and Harbors. Irrigation.
1 Gr., 1 Se., 8 Sc. Total 10.

7a. Asst. Professor Johnson. — Bridges and Buildings. Design of Framed Structures. 3 Gr., 1 Se., 14 Sc. Total 18.

8a ^{2}*hf.* Asst. Professor Johnson. — Masonry and Foundations.
4 Gr., 1 Se., 1 Ju., 33 Sc., 1 Bu. Total 40.

11*a* ^{2}*hf.* Asst. Professor Marks and Mr. Haskell. — Steam Machinery (introductory course). 1 Gr., 6 Se., 5 Ju., 5 So., 2 Fr., 2 Sp., 87 Sc. Total 108.

12*b* ^{1}*hf.* Asst. Professor Marks. — Elements of Thermodynamics. Theory of Heat Engines. 1 Gr., 3 Se., 2 Ju., 38 Sc. Total 44.

12*a* ^{1}*hf.* Asst. Professor Marks. — Efficiency and Economics of Heat Engines.
13 Sc. Total 13.

12*c* ^{1}*hf.* Asst. Professor Burke. — Heating and Ventilation.
1 Gr., 12 Sc. Total 13.

13*a.* Asst. Professor Marks, and Messrs. Moyer and Haskell. — Engineering Laboratory. Introductory course in experimental methods.
5 Gr., 2 Se., 3 Ju., 38 Sc. Total 48.

13*b.* Asst. Professor Marks and Mr. Moyer. — Engineering Laboratory (second course). 12 Sc. Total 12.

14*a* ^{1}*hf.* Mr. Kennedy. — Machine Design (introductory course).
3 Se., 27 Sc. Total 30.

14*b.* Professor Hollis. — Machine Design (second course). 10 Sc. Total 10.

15*a.* Professor Hollis. — Marine Engines and Boilers. 3 Sc. Total 3.

16*a.* Asst. Professor Adams and Mr. Whiting. — Generation, Transmission, and Utilization of Electrical Energy (elementary course).
5 Gr., 6 Se., 4 Ju., 38 Sc. Total 53.

16*c.* Professor Kennelly. — Direct Current Dynamo-Electric Machinery.
2 Gr., 1 Ju., 13 Sc. Total 16.

16*e.* Asst. Professor Adams and Mr. Whiting. — Alternating Currents and Alternating Current Machinery. 4 Gr., 4 Sc. Total 8.

16*d.* Asst. Professor Adams. — Dynamo Design. 4 Sc. Total 4.

16*f.* Mr. Whiting. — Electrical Engineering Laboratory. 1 Gr., 7 Sc. Total 8.

17*a* ^{1}*hf.* Professor Kennelly. — Electric Transmission and Distribution of Power. 2 Gr., 5 Sc. Total 7.

17*b* ^{2}*hf.* Professor Kennelly. — Telegraphy and Telephony.
1 Gr., 1 Se., 2 Ju., 15 Sc. Total 19.

18*a* ^{2}*hf.* Asst. Professor Burke. — Metallurgy. 1 Se., 21 Sc. Total 22.

21. Professor Hollis. — Conference on Engineering Subjects. 26 Sc. Total 26.

22^{2}*hf.* Asst. Professor Westengard. — Contracts and Specifications. The Principles of Common Law as applied to Contracts.
2 Se., 35 Sc., 1 Bu. Total 38.

Physics.

Primarily for Undergraduates: —

B. Professor Hall, Dr. Ayres, and Mr. Serviss. — Experimental Physics (elementary course).
1 Gr., 4 Se., 7 Ju., 30 So., 47 Fr., 9 Sp., 73 Sc., 2 Bu. Total 173.

C. Asst. Professor Sabine, Dr. H. W. Morse, and Mr. L. D. Hill. — Experimental Physics. Mechanics, Sound, Light, Magnetism, and Electricity.
1 Gr., 16 Se., 13 Ju., 28 So., 53 Fr., 4 Sp., 83 Sc. Total 198.

1. Professor Hall and Mr. McKay. — General Descriptive Physics.
4 Se., 6 Ju., 7 So., 4 Fr., 1 Sp., 25 Sc., 1 Bu. Total 48.

2^{1}*hf.* Asst. Professor Sabine. — The Theory of Light in its application to familiar optical phenomena and to optical instruments.
1 Se., 3 Ju., 3 So., 6 Sc. Total 13.

11^{2}*hf.* Dr. H. W. Morse. — The Theory of Primary and Secondary Batteries. Galvanic Cells; Lead, Iron-Nickel, and Thallium Storage Batteries; Electricity Direct from Coal.
2 Gr., 6 Se., 8 Ju., 4 So., 1 Sp., 11 Sc. Total 32.

For Undergraduates and Graduates: —

3. Professor B. O. Peirce and Dr. Ayres. — Electrostatics, Electrokinematics, and parts of Electromagnetism.
5 Gr., 5 Se., 4 Ju., 1 So., 11 Sc. Total 26.

12^{1}*hf.* Dr. Lyman. — Electric Conduction in Gases with special reference to the Theory of Ions. 4 Gr., 4 Se., 2 Ju., 1 So., 1 Sc. Total 12.

4. Professor Trowbridge, Dr. G. W. Pierce, and Dr. Lyman. — Electrodynamics, Magnetism, and Electromagnetism.
1 Gr., 1 Se., 2 Ju., 3 Sc. Total 7.

5. Asst. Professor Sabine. — Light. 5 Gr., 1 Ju., 1 Sc. Total 7.

6*a*^{1}*hf.* Professor Hall. — Elements of Thermodynamics.
3 Gr., 1 Se., 1 Ju., 1 So. Total 6.

6*b*^{2}*hf.* Professor Hall. — Modern Developments and Applications of Thermodynamics. 3 Gr. Total 3.

14^{1}*hf.* Dr. H. W. Morse. — The Theory of Photography. Actinometry, Reversible and Irreversible Photochemical Reactions, Theory of the Latent Image, Development, Fixing, Intensification, etc.; Color Photography; Catagraphy. 1 Gr., 1 Se. Total 2

15^{2}*hf.* Dr. G. W. Pierce. — Radiation. 5 Gr., 2 Se., 1 Ju. Total 8.

Primarily for Graduates: —

‡7 *hf.* Professor Hall. — The Theory of Probability and the Kinetic Theory of Gases. 3 Gr., 1 Sc. Total 4.

‡9. Professor B. O. Peirce and Dr. G. W. Pierce. — The Mathematical Theory of Electricity and Magnetism. 6 Gr., 1 Sc. Total 7.

Courses of Research.

20*a*. Professor Trowbridge. — Light and Electricity. 2 Gr. Total 2.

20*c*. Professor Hall. — Heat and Electricity. 1 Gr., 1 Sc. Total 2.

Chemistry.

Primarily for Undergraduates: —

1. Professor C. L. Jackson, Mr. Calhane, and Messrs. Mark, Behr, Wyman, Carlton, Corson, Benedict, and R. F. Jackson. — Descriptive Inorganic Chemistry.
17 Se., 26 Ju., 63 So., 90 Fr., 10 Sp., 128 Sc., 1 Bu. Total 335.

2 ^{1}*hf*. Dr. Baxter. — Organic Chemistry (elementary course).
12 Se., 24 Ju., 24 So., 16 Sc., 1 Bu. Total 77.

3 Asst. Professor Sanger, Mr. McCarthy, and Messrs. Bonnet, Butler, and Langmaid. — Qualitative Analysis.
1 Gr., 10 Se., 36 Ju., 39 So., 1 Fr., 1 Sp., 36 Sc. Total 124.

4. Dr. Baxter and Mr. Forbes. — Quantitative Analysis, gravimetric and volumetric. 1 Gr., 6 Se., 15 Ju., 3 So., 14 Sc. Total 39.

For Undergraduates and Graduates: —

8 ^{2}*hf*. Professor Richards and Dr. G. N. Lewis. — The Historical Development of Chemical Theory. 4 Se., 9 Ju., 11 So., 11 Sc., 1 Bu. Total 36.

11. Asst. Professor Sanger. — Industrial Chemistry.
8 Gr., 4 Se., 2 Ju., 7 Sc. Total 21.

9 ^{1}*hf*. Dr. Baxter and Mr. Hines. — Advanced Quantitative Analysis.
2 Gr., 6 Se., 1 Ju., 7 Sc. Total 16.

10 ^{2}*hf*. Dr. Baxter and Mr. Hines. — Gas Analysis.
5 Gr., 6 Se., 3 Ju., 1 So., 6 Sc. Total 21.

5. Professor H. B. Hill and Mr. Russe. — The Carbon Compounds.
2 Gr., 7 Se., 4 Ju., 1 So., 7 Sc. Total 21.

Primarily for Graduates: —

6. Professor Richards and Mr. R. C. Wells. — Physical Chemistry.
6 Gr., 3 Se., 3 Sc. Total 12.

12 ^{1}*hf*. Dr. Baxter. — Photochemistry, including the use of Optical Instruments in Chemistry. 3 Gr., 2 Se., 4 Sc. Total 9.

7 ^{2}*hf*. Dr. G. N. Lewis. — Electrochemistry. 7 Gr., 3 Se., 3 Sc. Total 13.

13 ^{2}*hf*. Dr. Lewis. — Experimental Electrochemistry. 5 Gr., 1 Sc. Total 6.

14. Dr. Lewis. — Advanced Physical Chemistry. Chemical Kinetics and Equilibrium. 2 Gr. Total 2.

Courses of Research.

20*a*. Professor Richards and Dr. Baxter. — Inorganic Chemistry, including Determination of Atomic Weights. 4 Gr. Total 4.

20*b*. Professor C. L. Jackson. — Organic Chemistry. 5 Gr. Total 5.

20*c*. Professor H. B. Hill. — Organic Chemistry. 1 Gr. Total 1.

20*d*. Professor Richards and Dr. Lewis. — Physical Chemistry. 5 Gr. Total 5.

20*e*. Asst. Professor Sanger. — Applied Chemistry. 3 Gr. Total 3.

Botany.

Primarily for Undergraduates: —

1 ^{2}*hf.* Professor Goodale, Mr. Plowman, and other assistants. — Botany (introductory course).
14 Se., 15 Ju., 41 So., 58 Fr., 7 Sp., 36 Sc., 1 Bu. Total 172.

2 ^{1}*hf.* Professor Thaxter, and Messrs. Blakeslee and Johnston. — Morphology of Plants. 4 Gr., 2 Se., 5 Ju., 12 So., 1 Fr., 19 Sc. Total 43.

For Undergraduates and Graduates: —

3. Asst. Professor Jeffrey and Mr. Plowman. — Botany (second course). Morphology, Histology, and Physiology of Flowering Plants.
1 Gr., 1 Se., 3 So., 2 Sc. Total 7.

6 ^{2}*hf.* Professor Thaxter and Mr. Blakeslee. — Cryptogamic Botany. Bacteria, Mycetozoa, Fungi, and Algae. 3 Gr., 1 Ju., 1 So., 6 Sc. Total 11.

Primarily for Graduates: —

Courses of Research.

20*a*. Professor Goodale and Asst. Professor Jeffrey. — Structure and Development of Phanerogams. Experimental Vegetable Physiology. Economic Botany, with special reference to Tropical Plants.
2 Gr. Total 2.

20*b*. Professor Thaxter. — Structure and Development of Cryptogams.
2 Gr. Total 2.

20*c*. Professor B. L. Robinson. — Taxonomy of Phanerogams.
1 Gr., 1 Sc. Total 2.

Zoölogy.

Primarily for Undergraduates: —

1 ^{1}*hf.* Asst. Professor G. H. Parker, Mr. G. Smith, and other assistants. — Zoölogy (introductory course).
2 Gr., 13 Se., 20 Ju., 30 So., 41 Fr., 4 Sp., 34 Sc., 1 Bu. Total 145.

2 ^{2}*hf.* Dr. Castle, Mr. Peters, and other assistants. — Morphology of Animals.
2 Gr., 3 Se., 4 Ju., 13 So., 3 Fr., 1 Sp., 17 Sc. Total 43.

For Undergraduates and Graduates: —

3. Dr. H. W. Rand and Mr. Carpenter. — Comparative Anatomy of Vertebrates. 3 Gr., 3 Se., 4 Ju., 3 So., 8 Sc. Total 21.

4 ^{1}*hf.* Professor Mark and Dr. H. W. Rand. — Microscopical Anatomy.
3 Gr., 2 Se., 1 Ju., 3 Sc. Total 9.

5 ^{2}*hf.* Professor Mark and Dr. H. W. Rand. — Embryology of Vertebrates.
2 Gr., 2 Se., 1 Ju., 4 Sc. Total 9

9 ^{1}*hf.* Asst. Professor R. T. Jackson. — Fossil Invertebrates.
1 Gr., 1 Se. Total 2.

9*a* ^{2}*hf.* Asst. Professor R. T. Jackson. — Fossil Invertebrates. Advanced studies of special groups. 1 Se. Total 1.

10. Dr. Castle. — Experimental Morphology. Ontogenesis.
3 Gr., 1 Se., 1 Sc. Total 5.

13 [1]*hf.* Asst. Professor G. H. PARKER. — Introduction to the study of the Nervous System. 5 Gr., 2 Se., 1 So., 4 Sc. Total 12.

16 [2]*hf.* Asst. Professor G. H. PARKER. — The Structure and Functions of the Nervous System and its Relation to Animal Habits. Central Nervous Organs and Terminal Organs of Efferent Nerves. 4 Gr., 3 Se., 1 So., 3 Sc. Total 11.

Primarily for Graduates: —

COURSE OF RESEARCH.

20. Professor MARK, Asst. Professors R. T. JACKSON and G. H. PARKER, and Dr. CASTLE. — Zoölogical Investigations. 8 Gr., 1 Se., 3 Sc. Total 12.

Geology and Geography.

Primarily for Undergraduates: —

A [1]*hf.* Mr. READ, assisted by Mr. WILDER. — Physiography of the Lands. 1 Gr., 9 Se., 4 Ju., 11 So., 3 Fr., 42 Sc., 3 Bu. Total 73.

B [2]*hf.* Asst. Professor WARD, assisted by Mr. WILDER. — Meteorology (elementary course). 1 Gr., 8 Se., 7 Ju., 19 So., 27 Fr., 1 Sp., 54 Sc., 1 Bu. Total 118.

4 [1]*hf.* Professor SHALER, assisted by Messrs. P. S. SMITH and GOLDTHWAIT. — Elementary Geology. 1 Gr., 27 Se., 48 Ju., 138 So., 179 Fr., 8 Sp., 100 Sc., 1 Bu. Total 502.

5 [2]*hf.* Asst. Professor J. B. WOODWORTH, aided by Mr. GOLDTHWAIT and other assistants. — Elementary Field and Laboratory Geology. 4 Gr., 4 Se., 18 Ju., 29 So., 52 Fr., 4 Sp., 69 Sc., 2 Bu. Total 182.

1 [1]*hf.* Asst. Professor WARD. — Meteorology (second course). 2 Se., 1 Ju., 6 Sc. Total 9.

For Undergraduates and Graduates: —

6 [2]*hf.* Professor DAVIS and Mr. READ. — Physiography of the United States. 2 Gr., 3 Se., 4 Ju., 2 So., 2 Fr., 23 Sc. Total 36.

8. Asst. Professor J. B. WOODWORTH, assisted by Mr. P. S. SMITH. — General Geology. 2 Gr., 2 Se., 2 Ju., 21 Sc. Total 27.

10. Professor H. L. SMYTH, assisted by Mr. HENDERSON. — Mining Geology. 1 Gr., 4 Se., 3 Ju., 9 Sc. Total 17.

22. Dr. JAGGAR, assisted by Mr. LAFORGE. — Advanced Geological Field Work. Areal Geology in the vicinity of Boston. 5 Gr., 1 Se., 8 Sc. Total 14.

17 [2]*hf.* Dr. JAGGAR, assisted by Mr. LAFORGE. — Experimental and Dynamical Geology. 1 Gr., 1 Ju., 3 Sc. Total 5.

16 [1]*hf.* Asst. Professor J. B. WOODWORTH. — Glacial Geology. 2 Gr., 1 Se., 1 So., 2 Sc. Total 6.

19 [1]*hf.* Asst. Professor WARD. — General Climatology. 2 Sc. Total 2.

25 [2]*hf.* Asst. Professor WARD. — Climatology of the United States. 1 Se., 1 Ju., 4 Sc. Total 6.

14 ¹hf. Professor Shaler, assisted by Mr. Read. — General Palaeontology.
18 Se., 13 Ju., 8 So., 1 Fr., 1 Sp., 21 Sc. Total 62.

11. Asst. Professor R. T. Jackson, assisted by Mr. Cushman. — Palaeontology.
1 Gr., 2 Se., 5 Sc. Total 8.

15. Asst. Professor R. T. Jackson. Occasional Lectures by Professor Shaler.— Historical Geology. 1 Gr., 4 Sc. Total 5.

18 ¹hf. Professor H. L. Smyth, assisted by Mr. Henderson. — Economic Geology. Non-metalliferous products and water supply.
1 Gr., 11 Sc. Total 12.

Primarily for Graduates: —

Courses of Research.

‡20. Professor Davis. — Physiography (advanced course).
3 Gr., 1 Sc. Total 4.

21. Professor H. L. Smyth. — Mining Geology (advanced course).
3 Sc. Total 3.

23. Professors Shaler, Davis, Wolff, and H. L. Smyth, Asst. Professor J. B. Woodworth, and Dr. Jaggar. — Geological Investigation in the Field and Laboratory. 1 Gr., 1 Se. Total 2.

26. Asst. Professor Ward. — Climatology (advanced course). 1 Se. Total 1.

Mineralogy and Petrography.

Primarily for Undergraduates: —

2. Asst. Professor Palache, assisted by Mr. Wood. — Mineralogy.
4 Se., 9 Ju., 4 So., 2 Fr., 21 Sc. Total 40.

3 ¹hf. Professor Wolff.— Building Stones (course for students of Architecture).
1 Gr., 1 Se., 11 Sc. Total 13.

For Undergraduates and Graduates: —

7 ¹hf. Asst. Professor Palache. — Crystallography.
1 Gr., 1 Se., 2 Sc. Total 4.

8 ²hf. Professor Wolff and Asst. Professor Palache. — Physical Crystallography (mainly Optical Mineralogy and its applications).
1 Ju., 1 Sc. Total 2.

12. Professor Wolff, assisted by Mr. Wood. — Petrography. 2 Sc. Total 2.

Mining and Metallurgy.

Primarily for Undergraduates: —

1 ²hf. Professor H. L. Smyth, assisted by Mr. Henderson.— Mining. Prospecting and exploring; sampling and the principles of exploitation.
2 Se., 4 Ju., 14 Sc. Total 20.

9 ²hf. Asst. Professor Sauveur. — General Metallurgy.
2 Gr., 8 Se., 11 Ju., 3 So., 2 Fr., 30 Sc. Total 56.

10 ¹hf. Mr. Raymer, assisted by Mr. P. R. Curtis. — Fire Assaying.
2 Se., 1 Ju., 17 Sc. Total 20.

For Undergraduates and Graduates: —

2 [1]*hf*. Asst. Professor Sauveur, assisted by Mr. Boynton. — Metallurgy of iron and steel. 2 Gr., 19 Sc. Total 21.

3 [2]*hf*. Professor H. L. Smyth. — Metallurgy of copper, nickel, lead, zinc, and the minor metals. 1 Gr., 1 Se., 18 Sc. Total 20.

4. Mr. Raymer, assisted by Mr. P. R. Curtis. — Ore-dressing, Concentration, and Milling. 1 Gr., 2 Se., 15 Sc. Total 18.

5 [1]*hf*. Professor H. L. Smyth. — Mining. Metal and coal mining; exploitation. 3 Gr., 1 Se., 15 Sc. Total 19.

11 [2]*hf*. Mr. Raymer. — Mining Plant. 2 Gr., 13 Sc. Total 15.

6 [2]*hf*. Mr. C. H. White, assisted by Mr. Schoenfuss. — Metallurgical Chemistry. 1 Gr., 1 Se., 1 Ju., 13 Sc. Total 16.

7. Mr. C. H. White, assisted by Mr. Schoenfuss. — Metallurgical Chemistry (advanced course). 1 Gr., 2 Se., 9 Sc. Total 12.

8 [1]*hf*. Mr. C. H. White. — Leaching Processes for Gold and Silver Ores. 1 Gr., 5 Sc. Total 6.

12. Mr. Raymer. — Mining. The study of mining operations. 11 Sc. Total 11.

14 [2]*hf*. Asst. Professor Sauveur, assisted by Mr. Boynton. — Metallography. 1 Se., 5 Sc. Total 6.

17 [2]*hf*. Mr. Raymer. — Mine Surveying. The general principles of underground and claim surveying. The construction of maps, sections, and models. 1 Gr., 1 Se., 12 Sc. Total 14.

Primarily for Graduates: —

COURSE OF RESEARCH.

20. Asst. Professor Sauveur. — Metallography and the Physics of Metals. 1 Gr. Total 1.

Anthropology.

For Undergraduates and Graduates: —

1. Dr. Russell. — General Anthropology. 1 Gr., 15 Se., 11 Ju., 14 So., 3 Fr., 7 Sc. Total 51.

5. Dr. Dixon. — American Archaeology and Ethnology. 1 Gr., 5 Se., 2 So., 1 Fr. Total 9.

Primarily for Graduates: —

‡2 [2]*hf*. Dr. Russell. — Somatology. 2 Se., 1 So. Total 3.

‡3 [1]*hf*. Dr. Dixon. — Primitive Religions. Theories of origin, animism, totemism, fetishism, ceremonial, symbolism, comparative mythology, and folklore. 1 Gr., 6 Se., 1 Ju., 1 So., 1 Sc. Total 10.

‡4 [1]*hf*. Dr. Russell. — Prehistoric Archaeology. European Ethnology. 1 Gr., 4 Se. Total 5.

‡7 [2]*hf*. Dr. Dixon. — Ethnology of Polynesia and Australia. 6 Se., 8 Ju., 5 So., 2 Fr., 3 Sc. Total 24.

Courses of Special Study.

‡20a. Professor Putnam. — American Archaeology and Ethnology.
1 Gr. Total 1.

‡20b. Dr. Russell. — Advanced Somatology. 1 Gr. Total 1.

Anatomy, Physiology, and Hygiene.

1. Drs. Darling, Provandie, and Bacon. — Elementary Anatomy and Physiology. Personal Hygiene. Emergencies.
19 Se., 24 Ju., 54 So., 5 Fr., 2 Sp., 24 Sc. Total 128.

In accordance with a vote of the President and Fellows whereby the Faculty may, under certain conditions, authorize a Doctor of Philosophy or a Doctor of Science to give instruction gratuitously or for such fees as he may himself collect, Dr. Karl Schmidt conducted a course in The Logical Foundations of Arithmetic, Dr. L. A. Freedman a course in The Sources of Modern German Aesthetics, and Dr. W. F. Tilton a course in The History of the Armada.

Summer Courses of Instruction, 1903.

The following seventy-two courses, an increase of twenty-eight since the preceding year, were given, under the direction of the Faculty, in the summer of 1903. The abbreviations, with the addition of S.S. for "member of the Summer School," are the same as those in the preceding list. A hand ☞ points to each course that may be counted toward a degree:—

Sanskrit.

I. Professor Lanman, assisted by Dr. Ryder. — Sanskrit for Beginners.
5 times a week, for 6 weeks. 2 S. S. Total 2.

Greek.

A. Dr. Chase. — Greek for Beginners. 5 times a week, for 6 weeks.
1 Fr., 11 S. S. Total 12.

B. Professor A. R. Benner (Phillips Acad., Andover). — Course in Homer for Teachers. 5 times a week, for 6 weeks. 1 So., 3 S. S. Total 4.

Latin.

A. Dr. Baker. — General Course for Teachers. 5 times a week, for 6 weeks.
37 S. S. Total 37.

B. Dr. Rand. — The Life and Works of Virgil. 5 times a week, for 6 weeks.
1 R., 10 S. S. Total 11.

English.

A. Asst. Professor Hurlbut, Messrs. Castle and Ells. — English Composition (elementary course). 5 times a week, for 6 weeks.
1 Sc., 50 S. S. Total 51.

B. Mr. **Greenough**. — English Composition (advanced course). 5 times a week, for 6 weeks. 1 Sc., 49 S. S. Total 50.

C. Mr. **Rideout**. — English Composition (second advanced course). 5 times a week, for 6 weeks. 15 S. S. Total 15.

D. Mr. **Carleton**. — English Composition (argumentation). 5 times a week, for 6 weeks. 4 S. S. Total 4.

Mr. **Reynolds**. — College Admission Requirements in English. 5 times a week, for 6 weeks. 69 S. S. Total 69.

Dr. **Brown**. — Anglo-Saxon. Anglo-Saxon Reader and Grammar. 5 times a week, for 6 weeks. 8 S. S. Total 8.

Dr. **Hoyt**. — Chaucer. 5 times a week, for 6 weeks. 2 S. S. Total 2.

Dr. **Neilson**. — Shakspere. 5 times a week, for 6 weeks. 18 S. S. Total 18.

Professor **Thorndike** (Northwestern Univ.). — English Literature in Outline, from Anglo-Saxon Times to the Present. 5 times a week, for 6 weeks. 7 S. S. Total 7.

Dr. **Tupper**. — English Literature from the Middle of the Sixteenth Century to the Death of Milton. 5 times a week, for 6 weeks. 6 S. S. Total 6.

Mr. **Copeland**. — English Literature of the Eighteenth Century. 5 times a week, for 6 weeks. 18 S. S. Total 18.

Professor **Thorndike** (Northwestern Univ.). — English Literature of the Nineteenth Century, from the publication of the Lyrical Ballads to the death of Tennyson. 5 times a week, for 6 weeks. 27 S. S. Total 27.

A. Mr. **Winter**, Mr. E. M. **Lewis** (Williams College), and Mr. **Willard**. — Public Speaking, Reading, Voice Training. 5 times a week, for 6 weeks. 20 S. S. Total 20.

B. Mr. **Winter** and Mr. E. M. **Lewis**. — Reading and Oral Discussion. 5 times a week, for 6 weeks. 5 S. S. Total 5.

C. Mr. **Winter**. — Platform speaking. 5 times a week, for 6 weeks. 6 S. S. Total 6.

German.

A. Dr. **Coar**. — Composition and Conversation; Methods of Teaching German. 5 times a week, for 6 weeks. 30 S. S. Total 30.

B. Professor H. S. **White**. — German Literature of the Eighteenth Century. 5 times a week, for 6 weeks. 5 S. S. Total 5.

C. Dr. **Walz**. — German Literature in the Twelfth and Thirteenth Centuries. 5 times a week, for 6 weeks. 5 S. S. Total 5.

French.

A. Mr. **Snow**. — Intermediate French Course for Teachers. 5 times a week, for 6 weeks. 1 Sc., 16 S. S. Total 17.

B. Professor W. F. **Giese** (Univ. of Michigan). — French Literature of the Seventeenth Century. 5 times a week, for 6 weeks. 2 S. S. Total 2.

C. Asst. Professor **Babbitt**. — French Literature of the Last Three Centuries. 5 times a week, for 6 weeks. 4 S. S. Total 4.

Spanish.

A. Asst. Professor Ford. — Introductory Course. 5 times a week, for 6 weeks. 3 S. S. Total 3.

B. Asst. Professor Ford. — Advanced Course. 5 times a week, for 6 weeks. 7 S. S. Total 7.

Russian.

Asst. Professor Wiener. — Elementary Course. 5 times a week, for 6 weeks. 2 S. S. Total 2.

History and Government.

A. Professor Haskins and Mr. E. Kimball. — Roman History. 5 times a week, for 6 weeks. 9 S. S. Total 9.

B. Professor Haskins and Dr. A. H. Wilde (Northwestern Univ.). — Mediaeval History. 5 times a week, for 6 weeks. 21 S. S. Total 21.

C. Dr. A. L. Cross (Univ. of Michigan). — English History. 28 lectures, supplemented by written exercises. 5 times a week, for 6 weeks. 10 S. S. Total 10.

D. Dr. A. L. Cross (Univ. of Michigan) and Mr. E. Kimball. — American History. Lectures and training in the use of materials, and in the application of the laboratory method of study. 25 lectures, supplemented by 4 pieces of written work. 5 times a week, for 6 weeks. 1 Sc., 39 S. S. Total 40.

E. Dr. J. P. Warren. — Modern Constitutional Government. 5 times a week, for 6 weeks. 4 S. S. Total 4.

F. Professor Gross. — English Institutions in the Middle Ages. 5 times a week, for 6 weeks. 1 S. S. Total 1.

Economics.

A. Dr. Sprague. — Outlines of Economics. Theory and principles. 5 times a week, for 6 weeks. 4 S. S. Total 4.

B. Dr. Sprague. — Economic History of the United States. 5 times a week, for 6 weeks. 1 Gr., 2 S. S. Total 3.

C. Mr. J. H. Patten. — Railways and Other Public Works under Public and Corporate Management. 5 times a week, for 6 weeks. 3 S. S. Total 3.

Psychology.

A. Dr. Yerkes. — Lecture Course: The Principles, Methods, and Applications of Psychology. 5 times a week, for 6 weeks. 18 S. S. Total 18.

B. Dr. Yerkes and Dr. D. C. Rogers. — Laboratory Course: An Experimental Study of Sensation, Perception, Attention, and Reaction, with Demonstrations. 5 times a week, for 6 weeks. 13 S. S. Total 13.

Education.

S1. Mr. A. O. **Norton.** — The History of Education since the Twelfth Century. 5 times a week, for 6 weeks. 8 S. S. Total 8.

S2. Professor **Hanus.** — General Principles of Education. Courses of study; and some phases of organization and administration of schools and school systems. 5 times a week, for 6 weeks. 59 S. S. Total 59.

S3. Professor **Hanus.** — Organization and Administration of Schools and School Systems. 5 times a week, for 6 weeks. 19 S. S. Total 19.

S5. Mr. A. O. **Norton.** — Psychology and Education. 5 times a week, for 6 weeks. 6 S. S. Total 6.

S10*d*. Mr. W. H. **Cushing.** — The Methods and Equipment of a Teacher of History. Lectures, discussions, reading, and written work. 5 times a week, for 6 weeks. 7 S. S. Total 7.

S10*e*. Professor D. E. **Smith** (Columbia Univ.). — The History and Teaching of Mathematics. 5 times a week, for 6 weeks. 1 R., 23 S. S. Total 24.

Theory of Design.

Dr. **Ross**, and Messrs. H. H. **Clark**, H. H. **Carroll**, and E. O. **Parker.** — Lectures, with experimental practice, for designers, for teachers of Drawing and Painting, and for teachers of the History of Art. 5 times a week, for 6 weeks. 1 Sc., 87 S. S. Total 88.

Architectural Drawing.

Mr. **Swan.** — Architectural Drawing. 5 times a week, for 6 weeks. 1 Sc., 1 Bu., 10 S. S. Total 12.

Music.

I. Mr. L. A. **Coerne.** — Grammar and Principles. 5 times a week, for 6 weeks. 9 S. S. Total 9.

II. Mr. L. A. **Coerne.** — General Course. 5 times a week, for 6 weeks. 4 S. S. Total 4.

Mathematics.

☞ SD. Asst. Professor **Love.** — Advanced Algebra. 5 times a week, for 6 weeks. 4 Se., 1 Ju., 2 Fr., 1 Sp., 29 S. S. Total 37.

☞ SE. Dr. **Huntington.** — Solid Geometry. 5 times a week, for 6 weeks. 1 Ju., 2 So., 1 Fr., 3 Sc., 1 R., 9 S. S. Total 17.

☞ SA. Mr. C. H. **Ashton.** — Plane Trigonometry. 5 times a week, for 6 weeks. 1 Ju., 4 So., 1 Fr., 1 R., 12 S. S. Total 19.

☞ SB. Mr. C. H. **Ashton.** — Plane Analytic Geometry. 5 times a week, for 6 weeks. 1 Se., 1 Ju., 2 So., 4 Sc., 9 S. S. Total 17.

S2. Dr. **Huntington.** — Differential and Integral Calculus. 5 times a week, for 6 weeks. 1 Ju., 3 So., 9 Sc., 12 S. S. Total 25.

S13. Asst. Professors **Osgood** and **Bôcher.** — The Theory of Functions. 5 times a week, for 6 weeks. 6 S. S. Total 6.

Physics.

B. Professor W. E. McElfresh and Mr. L. D. Hill. — Elementary Physics. 5 times a week, for 6 weeks. 1 So., 2 Fr., 34 S. S. Total 37.

☞ *C*. Asst. Professor Sabine. — Advanced Physics. 5 times a week, for 6 weeks. 1 Se., 1 So., 1 Sc., 12 S. S. Total 15.

4. Dr. Pierce. — Magnetism, Electromagnetism, and Electrodynamics. 5 times a week, for 6 weeks. 3 S. S. Total 3.

Chemistry.

Dr. Baxter, assisted by Messrs. R. C. Wells and A. B. Lamb. — Elementary Chemistry. 5 times a week, for 6 weeks. 1 So., 1 Fr., 14 S. S. Total 16.

Dr. Baxter, assisted by Messrs. R. C. Wells and A. B. Lamb. — Organic Chemistry. 5 times a week, for 6 weeks.
1 Fr., 1 Sp., 1 Me., 7 S. S. Total 10.

Dr. Baxter, assisted by Messrs. R. C. Wells and A. B. Lamb. — Quantitative Analysis. 5 times a week, for 6 weeks. 1 Me., 8 S. S. Total 9.

Dr. Baxter. — Research work under direction of Instructor. 1 S. S. Total 1.

Botany.

☞ S1. Messrs. R. G. Leavitt, Plowman, and Dandeno. — Introductory Course: Elementary Morphological, Physiological, and Ecological Botany. 5 times a week, for 6 weeks.
3 Ju., 3 So., 2 Fr., 1 Sp., 10 S. S. Total 19.

☞ S2. Mr. R. G. Leavitt and assistants. — Advanced Course: Morphology of Special Groups; Development of the Plant Kingdom. 5 times a week, for 6 weeks. 1 Fr., 11 S. S. Total 12.

Geology.

☞ S1. Professor Shaler and Professor J. E. Woodman. — Elementary course. Lectures, laboratory, and field work. 5 times a week, for 6 weeks.
1 So., 3 Fr., 5 Sc., 12 S. S. Total 21.

☞ S2. Asst. Professor J. B. Woodworth. — Field Work in Geology. 5 times a week, for 6 weeks. 1 So., 3 S. S. Total 4.

☞ S4. Mr. C. H. White. — Geological Field Work in the Rocky Mountain Region. 3 So., 2 Sc., 8 S. S. Total 13.

Geography.

☞ Mr. H. T. Burr, assisted by Mr. F. M. Wilder. — Lectures, laboratory, and field work. 5 times a week, for 6 weeks. 40 S. S. Total 40.

Physical Education.

Dr. Sargent and assistants. — Elementary and advanced courses in theory. 5 weeks. 93 S. S. Total 93.

Dr. Sargent and assistants. — Elementary and advanced courses in practice. 5 weeks. 160 S. S. Total 160.

Historical Excursions.

Mr. W. E. Dorman, assisted by Mr. G. Newhall. — Historical Excursions. 1 lecture and 7 excursions.

The following courses were given in the summer as part of the regular instruction of the Lawrence Scientific School: —

Engineering.

4a. Mr. Hughes. — Plane Surveying. Field work. Daily, 6 weeks.
1 Gr., 6 Se., 21 Ju., 21 So., 11 Fr., 2 Sp., 52 Sc., 8 S. S. Total 122.

4c. Mr. Hughes. — Geodetic Surveying. Daily, 5 weeks.
1 Gr., 3 Se., 12 Ju., 12 So., 8 Fr., 32 Sc., 8 S. S. Total 76.

4d. Mr. Hughes. — Railroad Surveying. Daily, 3 weeks.
1 Gr., 4 Se., 12 Ju., 13 So., 8 Fr., 33 Sc., 8 S. S. Total 79.

10*a*. Asst. Professor Burke, assisted by Mr. F. W. Turner. — Chipping, filing, and fitting. 90 hours.
1 Gr., 2 So., 1 Fr., 21 Sc., 3 S. S. Total 28.

10*b*. Asst. Professor Burke, assisted by Mr. F. W. Turner. — Blacksmithing. 90 hours. 1 Gr., 2 So., 1 Fr., 20 Sc., 2 S. S. Total 26.

10*c*. Asst. Professor Burke, assisted by Mr. F. W. Turner. — Pattern Making, etc. 90 hours. 1 Gr., 2 So., 1 Fr., 21 Sc., 4 S. S. Total 29.

10*e*. Asst. Professor Burke, assisted by Mr. F. W. Turner. — Machine-Shop Practice. 90 hours. 1 Gr., 2 So., 1 Fr., 18 Sc., 3 S. S. Total 25.

The numbering of courses of instruction, as the foregoing table shows, has become almost chaotic. Each Department had once a numbering of its own that seemed clear and reasonable; but none, unless it be the Department of Engineering, had a numbering that could be logically extended in several directions to match the growth of the elective work. In the Department of English, for example, Course 3*b* is Béowulf for Graduates, whereas Course 28 is an outline of English Literature, designed for Freshmen only: Courses 42*a* and 7*b* are in the same group, each covering a period of English Literature; but Course 42*a* covers a period by several centuries the earlier, of which a part is covered by a graduate course, numbered 4. Any confusion in the presentation of information to the public lessens, though in ever so small a degree, the respect of the public for the University; and confusion in the numbering of our courses wastes the time of all persons who use the elective lists. We need numbering or nomenclature that shall tell the reader at once whether a course is elementary or advanced and shall not be rendered obsolete by the establishment of new courses. That such a nomenclature may be devised I have no doubt; but thus far nobody has devised it.

Instruction provided for 1903-04.

Some of the new courses for 1903-04 are of peculiar interest. Dr. Ryder lectures on Sanskrit Drama, and requires for the course no knowledge of Sanskrit; Assistant Professor Harris deals with the Homeric Poems and with their influence to the time of the Renaissance; Professor H. W. Smyth lectures on the History of Classical Greek Literature, and directs the students' private reading; Professor Oertel, of Yale University, gives a General Introduction to Comparative Philology; Professor Capps, of the University of Chicago, discusses Greek Comedy and the Greek Theatre; Dr. Neilson and Mr. J. G. Hart treat English Literature in outline for persons who have not taken the Freshman course in the same subject; Mr. Copeland lectures on the Lives and Characters of Men of Letters, English and American; Professor Kittredge conducts special studies in Chaucer; Professor Francke, reinforced by the new Germanic Museum, deals with German Religious Sculpture from the Eleventh to the end of the Thirteenth Century, and its relation to homiletic and legendary literature; Assistant Professors Marcou and Ford offer a general view of Spanish Literature; Assistant Professor Fletcher and Dr. E. K. Rand give the History of Pastoral Literature, including the Classical Pastoral, the Latin Pastoral of the Middle Ages and the Renaissance, and the Pastoral in Modern European Literature; Dr. Potter lectures on Epic Poetry; Professor Taussig, after two years' absence, comes back to strengthen the Department of Economics; Professor Kittredge and Assistant Professor F. N. Robinson discuss Germanic and Celtic Religions; Dr. Chase lectures on the History of Greek Vase Painting; Mr. Whittemore offers a course in Celestial Mechanics; Dr. Morse considers the Theory of Photography; Dr. Dixon offers to conduct the study of selected texts in the languages of American Indians; Mr. R. T. Fisher and Mr. J. G. Jack give courses in Forestry. It is a matter of regret that the number of courses in the Fine Arts remains disproportionately small. Expansion in this Department becomes almost a necessity.

DATE OF ISSUING THE ELECTIVE PAMPHLET.

Among the larger universities, Harvard has always been late in the publication of its courses of study. Believing it important that the Announcement of the Courses of Instruction for any academic year should be made some weeks before the close of the preceding academic year, the Committee on Instruction succeeded in issuing the elective pamphlet much earlier than usual. Such an early issue makes necessary some changes in later editions, but is of great advantage to all three schools under the Faculty of Arts and Sciences. It is of peculiar advantage to the Graduate School.

ADMISSION REQUIREMENTS IN MUSIC.

In the course of the academic year, the Faculty added both Harmony and Counterpoint to the optional subjects in the requirements for admission to Harvard College and the Lawrence Scientific School. Harmony is an elementary subject, counting two points; and Counterpoint is an advanced subject, counting two points. To meet the needs of students who have passed the admission requirement in Harmony, a new elective course (Music 1*a*) has been established in that subject; the old course for beginners (Music 1) still continues.

HARVARD COLLEGE AND THE COLLEGE ENTRANCE EXAMINATION BOARD.

In my last report I suggested, as others have done, that the Faculty might well consider the relation of the Harvard admission examinations to the examinations conducted by the College Entrance Examination Board. Harvard College has steadily opposed admission by certificate, and has steadily refused to admit as Freshmen any candidates that have not passed admission examinations which it has itself administered. It has frequently conferred with other colleges in behalf of certain common requirements for admission; but it has made its own examination papers, read its own examination books, and voted on the admission or rejection of its own candidates. When, a dozen years ago, the Committee on Admission from Other Colleges had admitted as Freshmen a few Sophomores from colleges of good standing, the practice was promptly stopped, as by common consent objectionable. The one exception to the strict rule of Harvard examinations for Harvard candidates is the crediting of persons who hold Yale preliminary certificates with such elementary examinations as they have passed at Yale, provided they pass corresponding advanced examinations at Harvard. If, for example, a candidate has a Yale certificate in plane geometry, he is credited with that subject at Harvard on passing the Harvard examination in solid geometry; if he has a Yale certificate in the elementary part of the examination in Greek, he is credited with elementary Greek at Harvard on passing the Harvard examination in advanced Greek. The Harvard admission examinations, theoretically at any rate, differ from many other examinations in testing not so much what a boy has done as what he can do. It is this principle that has made them recognized by teachers generally as hardest to pass and highest in their standards, and as doing important service to education in America. The Faculty has felt sure that many other examinations, which on paper are as hard or harder, are different in principle and in results; and it has feared that any kind of examination trust might jeopardize the principle which it has been years in establishing and maintaining. It has believed that in keeping entire control of its own examinations it has kept, as it could keep in no other way, the power of showing, undimmed by intercollegiate politics or by bewildering compromise, a Harvard ideal in education. Strongly sympathizing with these views, I believe, nevertheless, that a more liberal policy toward the examinations of the College Entrance Examination Board would, in the long run, be helpful, not merely to the schools, but to Harvard College itself, since the present policy cuts off from Harvard College many an enterprising youth who must take his chance of preparation in a high school able to fit boys for Harvard, but outside of direct Harvard influence, and unable to provide a special kind of work for one or two Harvard candidates. The papers produced by the College Board are certainly hard enough, if they are taken seriously, to satisfy Harvard requirements; and Harvard College may readily make sure that in the examination books of Harvard candidates the questions and the answers shall be taken seriously. Thus, still keeping examinations of its own, Harvard College need shut out no boy who could appreciate its advantages and would make good use of them. Incidentally, the recognition of the College Examination Board by Harvard College would be of service to Radcliffe College, whose numbers and traditions are not so strong as Harvard's, and whose "feeding schools" are less likely to provide special courses for its admission examinations. I need hardly say, however, that I am now advocating the change in behalf of Harvard College and young men—not of Radcliffe College and young women.

HONORS IN LITERATURE.

In January the Faculty adopted an important proposition of the Divisions of Ancient and Modern Languages in regard to a new form of Honors. These Honors are called Honors in Literature, and are open to undergraduates; that is, to candidates for the degree of Bachelor of Arts. In the language of the announcement, the purpose of these Honors in Literature is to "offer in addition to the existing schemes for Honors a plan that will encourage undergraduates to combine reading in the classics with reading in the modern languages. It is desired to emphasize in this way the underlying unity of literary study, and especially the interdependence of classical and modern literature." An important part of the scheme is the recognition of work done outside of college courses. The student must have considerable attainments in at least two languages and literatures beside his own — one ancient and one modern. In each case, he must show a good reading knowledge of the language, acquaintance with the general history of the literature, and a thorough study of a subject from the literature.

The Divisions have in mind the kind of student who should always have been a candidate for Honors, but has seldom or never found the right Department in which to apply. Such a student may be better educated in literature than many of those who have specialized so minutely as to become suitable candidates for Honors in a single Department of linguistic and literary study.

THE PRESENT CONDITION OF HONORS.

As has been frequently said, the condition of Honors in Harvard University is deplorable. The number of candidates is absurdly small in proportion to the number of earnest and able students; and the disproportion leads to the belief that there is something radically wrong in our present requirements. One of the most important problems before the Faculty of Arts and Sciences is the production of a scheme of requirements for Honors which is likely to interest every earnest and capable student.

In June the Faculty voted on the recommendation of Professor Morgan "that the committees administering Honors be requested to consider the present requirements for them, and to report whether it is expedient to make changes and new proposals with a view to the encouragement of candidacy, and especially whether the attainment of Honors might be made part of the qualifications for a degree." On this matter no definite action has yet been taken.

REQUIREMENTS FOR A.M.

In November, 1902, on the motion of Professor von Jagemann, the Faculty voted: —

That the Administrative Board of the Graduate School be requested to formulate and report to the Faculty a plan for a change in the requirements for A.M., to the effect that this degree may henceforth be obtained for high attainments in a chosen field, to be tested by special examination and other suitable means, without reference to the courses the candidate may have taken here or elsewhere, and the marks he may have obtained in them; provided only that he holds the degree of A.B. of Harvard College, or a similar degree from some other college of good standing, and that he has fulfilled the statutory requirements of residence.

In April, 1903, the following new statement of the requirements for the degree of A.M. was formally adopted: —

> The ordinary requirement for the degree of MASTER OF ARTS for a graduate of a college or scientific school of good standing consists of *at least one year of residence and study devoted to advanced work approved by the Administrative Board of the Graduate School as affording suitable preparation for the degree and completed with high credit.* Other persons will be admitted to the degree on conditions to be determined in each case.
>
> The programme of study for the degree of Master of Arts must form a consistent plan of work pursued with some definite aim, though it need not lie wholly in one Department or field; this work may be done either in, or in connection with, the regular courses of instruction, or independently of them. The programme is ordinarily committed to the proper Division Committee on Honors and Higher Degrees for its consideration and approval.
>
> Applications for the degree of Master of Arts will be received as late as *the fifteenth day of January* of the academic year in which the degree is to be taken; but candidates are urged to file their applications at the beginning of the year or earlier, so that they may receive timely advice with reference to the work that will be expected of them for the degree. These applications should be addressed to the Dean of the Graduate School.

This change in the requirements for the degree of A.M. will be of great advantage to the Graduate School. It does away with much that is technical in the rating of our students, and gives the ablest men in good colleges the opportunity that they deserve. Already its effect is seen in the number and in the quality of students in the Graduate School.

THE DEGREE OF A.B. IN THE GRADUATE SCHOOL.

For some years one of the rules in regard to the candidates for the degree of A.B. has read as follows: "In order to be recommended for the degree of Bachelor of Arts, a student, unless he be a member of the Graduate School, must have been registered in Harvard College as a candidate for that degree at least one academic year." This rule was made to prevent sudden applications of special students in the College, and of students in the Lawrence Scientific School, for the degree of A.B., for which they have not nominally been candidates. The exception for members of the Graduate School has enabled graduates of other colleges, who might have registered in the Senior Class, to join the Graduate School while doing undergraduate work; and it has also enabled Harvard Seniors who in three years have finished the work for the A.B. to register as graduates before receiving that degree. The newly adopted rule of the Faculty, enabling all students who have actually done in three years the work for the A.B. to graduate without delay, has reduced the number of Harvard undergraduates who wish to take the A.B. in the Graduate School; and the newly adopted requirements for the degree of A.M. have encouraged the better men from other colleges in the pursuit of the Master's degree rather than the Bachelor's. Thus the A.B. in the Graduate School has seemed likely to degenerate into a "consolation degree," given to unsuccessful candidates for the A.M., who have nevertheless done a decent year's work, and who might, if previously registered in Harvard College, have received the degree of A.B. as Seniors. Both the admission to the Graduate School of students who are not graduates, and the awarding of the Bachelor's degree to students who become candidates at the eleventh hour because they can get nothing better, have seemed to the Faculty harmful alike to the Graduate School and to the College. Accordingly, on the recommendation of the Administrative Board of Harvard College, and with the approval of the Administrative Board of the Graduate School, the Faculty voted: That the terms of the conditions of candidacy for degrees be amended by striking from the fifth paragraph of page 469 of the Catalogue for 1902–03 the phrase, "unless he is a member of the Graduate School (see page 471)," and from page 471 the last paragraph, "A student in the Graduate School," etc.; that any other phraseology in the description of degrees at variance with these terms as amended be made to agree herewith, and that this change go into effect at the beginning of the academic year 1904–05. To this vote was attached, on the motion of Professor J. M. Peirce, a proviso that "a student of another Department of the University who wishes to transfer his registration to the Senior Class of Harvard College may do so at any time not later than the Christmas recess."

INFORMATION FOR INSTRUCTORS.

For some years the younger instructors have suffered for lack of information in regard to the conduct of their courses. It is the policy of the University to give every instructor much freedom in the use of his own methods; but some rules are necessary to make clear the relation of an instructor to the Office in University Hall. If, for example, an instructor admits a student to his course without communicating with the Office, and the Office is held responsible for records of all the students in every course, the result is confusion. A Committee on Information for Instructors, appointed two or three years ago, made its first report last year. The report is in the form of a circular sent to all instructors under the Faculty of Arts and Sciences. It gives information of which much was formerly in the Regulations but dropped out of the Regulations when they were reduced to rules for students. The circular is designed to tell what the instructors, new or old, should know about the machinery of lectures and recitations, of reports for absence, of examinations and other tests, of admission to college courses, and, in general, of their relation to the Faculty and to the several administrative officers.

THE LARGE LECTURE COURSES.

In my last report I referred to the appointment of a committee of the Faculty which should consider ways of making the instruction in Harvard College more efficient; and I called attention to the need of more assistants in the large lecture courses. The committee, consisting of nine persons, paid special attention to the large lecture courses, since these courses are often regarded as a weak spot in Harvard instruction. The investigations and deliberations of the committee occupied more than a year; its data were the replies of two hundred and forty-five instructors and seventeen hundred and fifty-seven students to carefully worded questions in its circular letter; and its conclusions were unanimous. In its report, which is now before the Faculty, it maintains that in the large lecture courses the amount and the thoroughness of the work should be increased; that assistants of the highest quality should be employed; and that no assistant should have charge of more than eighty men in all, or of more than twenty men in a single section. How to meet the cost of lecture courses thus reorganized it is now impossible to see; but if the large lecture courses are to have more than an uncertain stimulating value some reorganization must come.

L. B. R. BRIGGS, *Dean.*

THE COLLEGE.

To the President of the University:—

Sir,—I have the honor to submit to you my report on the condition of Harvard College for the academic year 1902–03.

The total number of students at the time the Catalogue went to press was twenty-one hundred and nine, divided as follows:—

Seniors	381
Juniors	420
Sophomores	578
Freshmen	608
Total number of Undergraduates	1987
Special Students	122
Total	2109

The registration in 1902–03, compared with the figures of the preceding year, shows a net gain of one hundred and twenty-six:—

	Gain.	Loss.
Seniors	35	..
Juniors	8	..
Sophomores	45	..
Freshmen	57	..
Special Students	..	19
	145	
	19	
Net gain	126	

During the year the College lost by death the following students:—

Theodore Gooding, '05,	Died January 29, 1903.
Arlowe Kingsbury Miller, '06,	Died April 20, 1903.
William Arthur Pennell, '04,	Died June 7, 1903.
George Herbert Evans, '06,	Died August 10, 1903.
Charles Shattuck Fletcher, '04,	Died September 13, 1903.
William Everson Cobb, '05,	Died September 19, 1903.

At Commencement, five hundred and fifteen students, of whom three hundred and twenty-one were registered as Seniors, received the degree of Bachelor of Arts, as against four hundred and twenty-seven, of whom three hundred and eight were registered as Seniors in 1902. This considerable increase was in part due to a new provision of the President and Fellows whereby a candidate for the degree who has completed the requirements therefor at the end of three years may take his degree then but have his name inserted in the *Quinquennial Catalogue* in the list of the class graduating four years from the time he entered. This practice was recommended by the Faculty, May 5, 1903, and was established by vote of the President and Fellows, June 1, 1903. In accordance with this provision the degree of Bachelor of Arts was conferred upon forty-six members of the Class of 1904. The number of students upon whom the degree of Bachelor of Arts was conferred in accordance with former practices of the governing boards is four hundred and sixty-nine. The new provision seems in every way admirable. By means of it students may receive the degree when their work for it is done and still preserve what many value most, official recognition of their social association with the class of their undergraduate life. The practice of securing leave of absence, of which so many have hitherto availed themselves, now becomes unnecessary, although this will doubtless continue in the cases of those men who register in another department of this University; the student going elsewhere finds his diploma serviceable. Furthermore, the student who takes advantage of the provision secures in the *Quinquennial Catalogue* a permanent record of his having completed his work in three years, for against his name is inserted the date at which he took his degree. His pride in this may be as great as heretofore has been the ingenuity of those who have had to explain why there appears against their names a date a year or more later than the date of their class. This action also accords with the practice of the Faculty in late years of associating a man who for any reason has been obliged to fall out of College and later returns and completes the requirements for his degree, with what he calls his own class, that is, the class which graduated four years from the time he entered, and of which he as a Freshman was a member. This practice is commendable, not only because it simplifies the work of the Class Secretaries and brings their records into accord with the records of the University, but also because it recognizes one of the most treasured parts of college life, the social side; for, when all is said, to be a graduate of the College means first of all belonging to an honored and well-loved brotherhood, and a man's class the particular set who will be most interested in the enumeration of his babies and the story of his life.

Of the students registered in the Class of 1904 during the academic year 1902–03 there were at Commencement, 1903, including the forty-six already mentioned, one hundred and thirty men who had completed the requirements for the degree. (No account is here made of those men who will finally be members of the Class of 1904 but who were at that time held back in the Sophomore Class, 1905, on account of admission conditions.) The records of the Class of 1903 show that one hundred and ninety-nine students received the degree on three or less years' work in Harvard College: —

Three years	136
Three years plus one and a half Summer courses (in 1902)	3
Three years plus one Summer course (in 1902)	2
Three years plus one-half a Summer course (in 1902)	5
Admitted by the Committee on Admission from Other Colleges: —	
Registered three years	10
Registered two years	10
Registered one year	26
Graduate Students registered one year	6
At Harvard Freshman and Senior year, at Chicago Univ. two years	1
	199

From this number, one hundred and ninety-nine, should be subtracted the number of students coming from other colleges, for these men devote practically in every case at least four if not more years to college work. The total number, therefore, of men in the Class of 1903 who actually completed the work in three years, counting also work which they anticipated at the admission examinations and work in the Summer School, is one hundred and forty-six. These figures show how strong is the tendency at Harvard at the present time to complete the work for the degree of Bachelor of Arts in three years, but the conclusion by no means should be drawn that men give up university work at the end of three years: a few of the men go into business, but by far the greater proportion carry on professional or graduate studies either here or at another university.

The next table shows the registration of those who received degrees in 1901, 1902, and 1903, but who were not registered as members of the Senior Class: —

	1901.	1902.	1903.
On leave of absence all the year	18	47	43
On leave of absence first half-year	1	..	6
On leave of absence second half-year	..	15	33
Graduate Students	13	9	6
Registered in Law School	27	20	30
Registered in Medical School	7	7	7
Registered in Dental School	1	..	..
Registered in Divinity School	..	1	..
Registered in Scientific School	2	7	6
Special Students	3	1	..
Registered in Junior Class	8	6	11
Registered in Sophomore Class	8	6	6
Registered in Senior Class of 1900	2	..	..
	90	119	148
To be designated as 1904 in the *Quinquennial*	..	..	46
			194

Deducting the forty-six students to be entered in the Class of 1904, the number was this year one hundred and forty-eight, an increase of twenty-nine over the number in 1902. The number of those taking leave of absence without registering in any other department of the University, exclusive of the forty-six already enumerated, increased from sixty-two in 1902 to eighty-two in 1903.

The losses and gains in the three younger classes between November, 1902, and November, 1903, are shown in the following tables: —

	November, 1902.	Loss.	Gain.	November, 1903.
Class of 1904 . .	(Juniors) 420	183	89	(Seniors) 326
Class of 1905 . .	(Sophomores) 580	200	47	(Juniors) 427
Class of 1906 . .	(Freshmen) 607	132	154	(Sophomores) 629
		515	290	

Net loss in the three classes between Nov., 1902, and Nov., 1903, . . . 225
(109 more than in 1902)

	Class of 1904.	Class of 1905.	Class of 1906.	Total for three classes.
Losses.				
Left College before the end of the year . .	12	22	30	64
Left College at the end of the year	164	35	19	218
Were "dropped" and left College	1	9	19	29
Entered a lower class	4	88	54	146
Entered a higher class	2	46	10	58
Total loss	183	200	132	515
Gains.				
From higher classes	8	9	90	107
From lower classes	45	10	. .	55
Newly admitted	36	28	64	128
Total gain	89	47	154	290
Net loss	94	153	. .	225
Net gain	. .	. .	22	. .

From the present Junior Class, 1905, eighty-eight students were dropped to a lower class as against seventy-four in the preceding Junior Class, 1904. This indicates that thus far the raising of the standard for promotion, which was first applied to the Class of 1905, has caused no serious increase in the number of "dropped" students. In October, 1903, before the final adjustment of some records had been made, an examination of the records of students registered in the Sophomore Class showed that fifty-two men were held back in this Class on account of admission conditions, twenty-five on account of a low record, and seventeen by a combination of the two. The total of men newly admitted to these three classes this year is one hundred and twenty-eight as compared with one hundred and thirty-two admitted to the corresponding classes last year.

The next table shows the losses and gains in the number of Special Students since December, 1902: —

In attendance, December, 1902	122
Left College before the end of the year	20
Left College at the end of the year	43
Entered a College class	26
Total loss	89
Reëntered College as Special Students, 1903	33
Newly admitted	106
Total	139
Net gain	17

The net gain is due to an increase in the number of students newly admitted. The number of those entering a College class remains practically as last year.

The Freshman Class of 1902–03 showed an unexpected gain of fifty-eight members, that of 1903–04 an expected decrease to the normal number: —

Admitted by examination in 1903	458
Admitted by examination before 1903	30
From a higher class	61
" the Special Students	2
" the Lawrence Scientific School	5
Total	556

The sixty-one students admitted from a higher class are made up of fifty-four "dropped" Freshmen from the Class of 1906, and seven other members of that class who withdrew from it before the end of the last College year.

The following table gives the number of students transferred from the Lawrence Scientific School to a College class at the beginning of the year 1903–04. As compared with the number thus transferred at the beginning of the year 1902–03 the table shows an increase of five.

Freshmen	5
Sophomores	11
Juniors	1
Seniors	7
Total	24

Sixty candidates who took in June some of their final examinations for admission, intending to postpone the remainder until September, did not complete this examination in September: one of these was transferred to the Lawrence Scientific School as a preliminary candidate; of the remaining fifty-nine, eight passed in so few subjects that they were obliged to take all of their examinations over again in September; and three, who might have gone on, preferred to try all of their examinations again in order to secure a better record. Fifteen, rejected in June, took their examinations again in September; and twenty-eight who registered as postponing candidates but who passed in a sufficient number of points to entitle them to admission were allowed to change their registration, and received admission certificates. Notice that such a change would be allowed was sent to most of these candidates from the Office because the Committee on Admission Examinations is anxious, for the good of the students, to have them enter with as few admission conditions as possible. These twenty-eight had postponed but a few points and had passed twenty or more; most of them, however, had admission conditions, to try to remove which they were forbidden under the rule that a postponing candidate may not try over in September an examination in which he has failed in June. The examinations in which these candidates had failed together with the work they postponed amounted in each case to no more study than a student can profitably carry on during the summer, and the result of this change in registration was in several cases an improvement in the record at the beginning of the Freshman year. Seven who took examinations for Harvard College were later admitted to the Lawrence Scientific School, and three who had been admitted to the Scientific School were afterward admitted to Harvard College. Ten who presented themselves as final candidates were allowed, after the examinations, to count a part of the examinations they had passed for a preliminary certificate. Five preliminary candidates who took their examinations for Harvard College became candidates for the Scientific School. One, rejected in June, was changed to a postponing candidate for the Lawrence Scientific School, and eight boys, either immature or sick, were allowed to add to a preliminary certificate.

Six hundred and five candidates, fifty-two less than in 1902, took

Final Examinations. Of the six hundred and five, four hundred and twenty-one had Preliminary Certificates; fifty-nine divided the examinations between June and September; forty-nine took all of their examinations in June; thirty-eight took all in September; thirty-seven who had a Preliminary Certificate divided their Final Examinations between June and September in accordance with the new rule of the Faculty allowing a three-part division of the examination. Of this new provision a good many schools were ignorant, and on this account the Chairman of the Committee, with the consent of various members who were consulted individually after the Committee had separated, allowed, with the approval of the masters of the schools concerned, thirteen rejected candidates, who had they known of the provision would have taken advantage of it, to become postponing candidates. Five preliminary candidates were, with the approval of the head masters of their schools, allowed to become postponing candidates: —

	Admitted.	Admitted "Clear."	Rejected.
June	412	205	38
September	126	29	29
Total	538	234	67

Of the six hundred and five candidates, four hundred and fifty-two offered ancient history rather than modern; sixty modern rather than ancient; forty-nine both ancient and modern; seventeen ancient and advanced European; nine modern and advanced European; one modern and the history of a period; one ancient and the history of a period; and sixteen neither.

The next table shows, in order of the number of choices, the offerings of advanced subjects: Latin as usual holds the first place.

	1901.	1902.	1903.
1.	Latin.	Latin.	Latin.
2.	Greek.	French.	French.
3.	French.	Greek.	Greek.
4.	Latin Composition.	German.	German.
5.	German.	Log. and Trig.	Log. and Trig.
6.	Greek Composition.	History.	Solid Geometry.
7.	Log. and Trig.	Solid Geometry.	History.
8.	Solid Geometry.	Algebra.	Algebra.
9.	Algebra.	Astronomy.	Astronomy.
10.	History.	Physics.	Physics.
11.	Physics.	Meteorology.	Meteorology.
12.	Analytic Geometry.		
13.	Meteorology.		

The next table gives the details on which the foregoing table is based: —

Number of candidates offering	1901.		1902.		1903.	
		Per cent.		Per cent.		Per cent.
Advanced Greek	319	51.62	317	48.25	279	46.12
Advanced Latin	489	79.13	541	82.34	504	83.31
Advanced German	123	19.9	157	23.90	182	30.08
Advanced French	259	41.91	401	61.04	344	56.86
Advanced History	48	7.77	82	12.48	78	12.89
Logarithms and Trigonometry	101	16.34	97	14.76	100	16.53
Solid Geometry	82	13.27	77	11.72	85	14.05
Advanced Algebra	49	7.93	71	10.81	51	8.50
Advanced Physics	7	1.13	2	.30	4	.66
Astronomy	0	.00	6	.91	6	.99
Meteorology	2	.32	1	.15	2	.33

The next two tables show, for each study, the percentage of failure (*A*) in the complete records of the candidates, including the records of their successful Preliminary Examinations, and (*B*) in their records at Final Examinations only: —

(*A*)	1898.	1899.	1900.	1901.	1902.	1903.
ELEMENTARY STUDIES.						
English	8.7	9.6	10.2	9.42	6.25	8.48
Greek	7.86	10.6	4.	3.18	3.16	3.55
Latin	6.75	4.65	6.	3.91	5.91	6.77
German	17.07	22.97	17.85	16.67	17.82	11.19
French	3.54	6.65	7.6	7.05	7.71	7.09
History (Ancient)	9.41	5.	8.2	10.46	12.14	10.71
History (Modern)	7.	10.	7.44	16.54	16.67	6.49
Algebra	14.56	16.55	14.	14.97	10.44	10.70
Geometry	. .	. .	24.	7.06	13.83	11.11
Plane Geometry	26.29	25.7	26.60	16.38	21.86	17.03
Physics	12.65	18.53	18.44	17.07	17.97	14.38
Chemistry	15.29	18.48	12.	10.82	6.90	11.11
Physiography	. .	. .	11.	33.33	64.29	57.89
Anatomy	. .	. .	20.	50.	27.27	50.

ADVANCED STUDIES.	1898.	1899.	1900.	1901.	1902.	1903.
Greek	12.5	14.28	13.16	12.96	11.04	9.32
Latin	15.73	20.	23.45	21.74	27.36	20.42
German	14.18	26.61	30.	31.21	31.85	28.57
French	17.78	18.37	26.47	27.57	22.19	25.29
History	. .	. .	41.66	45.1	35.37	42.31
Logarithms and Trigonometry	41.60	26.17	23.86	28.85	25.77	23.
Solid Geometry	26.76	20.98	22.58	27.78	41.56	44.71
Algebra	43.14	35.	41.17	48.	56.34	19.61
Physics	16.67	37.5	37.5	71.43	100.	75.
Astronomy	. .	. .	100.	.00	66.67	66.67
Meteorology	. .	. .	50.	100.	.00	.00

(*B*) ELEMENTARY STUDIES.			ADVANCED STUDIES.		
	1902.	1903.		1902.	1903.
English	8.32	11.39	Greek	11.40	9.59
Greek	11.36	11.36	Latin	29.02	21.33
Latin	14.67	15.50	German	36.76	31.52
German	30.86	24.86	French	27.73	33.33
French	17.53	17.24	History	36.25	44.59
History (Ancient)	23.16	18.75	Log. and Trig.	26.88	24.21
History (Modern)	24.69	12.20	Solid Geometry	43.24	47.50
Algebra	21.	26.56	Algebra	65.57	20.83
Geometry	18.57	18.37	Physics	100.	75.
Plane Geometry	29.48	22.34	Astronomy	66.67	66.67
Physics	20.43	16.49	Meteorology	.00	.00
Chemistry	8.	13.04			
Physiography	64.29	57.89			
Anatomy, etc.	30.	50.			
Harmony	. .	66.67			

As usual the greatest fluctuation in percentages is in the subjects offered by fewest candidates.

Seven hundred and nine candidates (eighty-five more than in 1902) took Preliminary Examinations; of these, five hundred and seventy-three (seventy-nine more than in 1902) received certificates: —

Eight points	54
Nine "	7
Ten "	80
Eleven "	7
Twelve "	121
Thirteen points	11
Fourteen "	128
Fifteen "	6
Sixteen "	71
Seventeen "	10
Eighteen "	45
Twenty "	18
Twenty-one points	1
Twenty-two "	8
Twenty-three "	1
Twenty-four "	2
Less than eight points	3
Received certificates	573
Failed	136
Total number of candidates	709

The next table gives the percentages of failure in Preliminary Studies: —

ELEMENTARY.	1902.	1903.	ADVANCED.	1902.	1903.
English	33.45	39.39	Greek	35.71	14.29
Greek	8.78	8.57	Latin	60.47	58.90
Latin	31.37	23.54	German	26.83	40.
German	24.48	27.47	French	32.28	35.62
French	19.54	20.59	History	50.	33.33
History (Ancient)	27.73	27.79	Log. and Trig.	31.25	37.50
History (Modern)	30.51	26.87	Solid Geometry	57.14	73.68
Algebra	15.63	25.70	Algebra	58.33	60.
Geometry	4.35	21.28	Physics	Not off'd	
Plane Geometry	41.02	26.03	Astronomy	Not off'd	
Physics	21.78	19.08	Meteorology	Not off'd	
Chemistry	5.	30.48			
Physiography	100.	50.			
Anatomy, etc.	.00†	57.14			
Harmony	..	.00*			

† Two candidates only. * One candidate only.

In printing statistics of "Credits" won at the examinations for admission to College, I give (*A*) the "Credits" won this year at Final Examinations; (*B*) those won this year and some earlier year by the Final Candidates of this year; and (*C*) those won this year at Preliminary Examinations: —

(*A*) ELEMENTARY STUDIES.	June.	Sept.	ADVANCED STUDIES.	June.	Sept.
English	9	1	Greek	46	0
Greek	12	1	Latin	54	0
Latin	21	2	German	20	0
German	20	0	French	10	0
French	10	2	History	3	1
History (Ancient)	27	4	Log. and Trig.	13	2
History (Modern)	3	0	Solid Geometry	6	2
Algebra	43	7	Algebra	5	3
Geometry	9	2	Physics	0	0
Plane Geometry	21	6	Astronomy	0	0
Physics	107	14	Meteorology	0	0
Chemistry	28	2			
Physiography	0	0			
Anatomy, etc.	0	2			
Harmony	. .	1			
	310	44		157	8

(*B*) ELEMENTARY.		ADVANCED.	
English	13	Greek	47
Greek	61	Latin	56
Latin	62	German	26
German	53	French	19
French	39	History	4
History (Ancient)	50	Log. and Trig.	16
History (Modern)	7	Solid Geometry	8
Algebra	132	Algebra	8
Geometry	17	Physics	0
Plane Geometry	46	Astronomy	0
Physics	140	Meteorology	0
Chemistry	38		
Physiography	0		
Anatomy, etc.	0		
	658		184

(C) ELEMENTARY.		ADVANCED.	
English	1	Greek	2
Greek	44	Latin	3
Latin	80	German	12
German	39	French	4
French	31	History	0
History (Ancient)	29	Log. and Trig.	0
History (Modern)	10	Solid Geometry	0
Algebra	139	Algebra	0
Geometry	5	Physics	0
Plane Geometry	18	Astronomy	0
Physics	46	Meteorology	0
Chemistry	8		
Physiography	0		
Anatomy, etc.	1		
	451		21

Experience with the three-part division of the examinations has been brief, but thus far in every way indicates that the new arrangement is highly advantageous not only to candidates but also to the College. The candidate with a Preliminary Certificate for but a few points, instead of carrying a heavy burden of studies throughout the summer, is enabled to make a fair adjustment of work between his final year of study and the summer vacation, and to get a better mastery of his subjects; and he stands a much better chance of securing admission without conditions. In so far as he is clear of admission conditions the College is freed from giving him instruction to remove conditions or having him devote to them as outside studies the time that he can more profitably spend on his regular courses; and the probability that he will be physically fit for his work, not exhausted by too heavy a burden of summer work, is greatly increased. It is to be hoped that schools will take advantage of this provision in the cases of all candidates about whose preparation to take all of their Final Examinations there is doubt.

The members of the Administrative Board for the year 1902–03 were Professors Hurlbut, Willson, C. P. Parker, Gross, Grandgent, Gardiner, Coolidge, Johnson, Ward, Gulick, Palache, F. N. Robinson, Woodworth, C. H. C. Wright; Messrs. Cram, Cobb, J. G. Hart, and Whittemore.

During the year two students were expelled, — one, provisionally admitted from another College to the Junior Class, for forging the credentials on which he secured admission; the other, a Freshman, for thefts from lockers in the Gymnasium, the Weld Boat Club, and the Locker Building at Soldier's Field. One Freshman was dismissed for handing in as his own in a course in Fine Arts the drawing of another student and for lying. Ten students were suspended: four, one a Special, one a Sophomore, and two Freshmen, for dishonesty in written work; five, Freshmen, for communicating in an examination; and one, a Sophomore, for leaving Cambridge before the appointed time at the Christmas recess. The Board closed the probation of one "dropped" Freshman, one Freshman, one Sophomore, and one Junior, for neglect of work, and of one Sophomore for taking an unauthorized vacation. Eight students withdrew under pressure of varying degrees of intensity.

On recommendation of the Administrative Board and with the approval of the Administrative Board of the Graduate School, the Faculty voted to amend the terms of the conditions of candidacy for degrees so that, beginning with the year 1904–05, the degree of Bachelor of Arts shall no longer be given for work in the Graduate School. This degree has in several cases been taken by students of the latter School who found during the year that they could not win the degree of Master of Arts, and, therefore, took the degree of Bachelor of Arts as a consolation. The Board was of opinion that a candidate for the degree of Bachelor of Arts should be under the jurisdiction of Harvard College, and that from a social point of view it was unfair to the class to put into it at the time of its graduation students who had had no association with it.

The beginning of the year saw the Stillman Infirmary ready for use, one of the most beneficent and serviceable gifts the University has ever received. Only those who have seen sick boys in the forlornness of a college room, ministered to by kind-hearted but inexperienced undergraduate friends, can fully appreciate its value. Although the attempt to secure four-dollar subscriptions, on the insurance plan, in number sufficient to pay the running expenses failed, the failure was due, I believe, not to lack of willingness but to carelessness in responding. The sentiment of students, so far as it can be learned by informal talk, is in no way opposed to the small assessment necessary for this purpose.

The number of scholars in the first group of scholarship holders was this year sixty as compared with forty-one in the year 1901–02; of the sixty, sixteen held honorary scholarships and forty-four scholarships with stipend as against thirteen holding honorary scholarships and twenty-eight scholarships with stipend the preceding year. The percentage of holders of honorary scholarships has decreased. Of those holding scholarships in the second group forty-nine held honorary scholarships, forty-eight scholarships with stipend. The increase in the number of scholars in the first group is gratifying, but points at the same time to a condition that the Committee on Scholarships has for a long time deplored, the lack of an adequate number of scholarships with stipend, for the increase in the total number in the group is, in some part at least, due to the greater keenness in competition for scholarships of this sort. Every graduate of the College knows how mistaken is the idea, so commonly held by those who trust only to report, that the College has an abundance of money; but many graduates, especially those of the classes before the 90's, fall with the public into the error of thinking that the College has adequate resources to help all deserving students who must wholly or in part pay their way. A merely superficial examination of the facts will convince the investigator that this opinion is mistaken, but how greatly mistaken only those who are brought closely into contact with these men fully understand. Before the great increase in the number of students, in the early 80's, there was probably a sufficient number of scholarships for the really deserving men; but in the years since that time the growth in the funds for assisting students has not kept pace with the growth in numbers. Furthermore, the number of available scholarships has been reduced in order to assist the Graduate School; to its use have been transferred no less than twenty-five scholarships at one time devoted to students in the College. A comparison of the numbers of scholarships and students in 1884–85 with the numbers in 1902–03 is instructive. In 1884 there were for the ten hundred and six students in the College one hundred and twenty-two scholarships; in 1902–03, for the twenty-one hundred and nine students, one hundred and twenty-nine scholarships. (It must also be borne in mind that of the one hundred and twenty-nine scholarships many are regularly taken from the open competition by those who have a special claim upon them under the terms of the gift.) Six and one-tenth per cent. of the students now, as compared with twelve and one-tenth then, receive scholarships with stipend. The considerable increase in the Beneficiary Funds, the Price Greenleaf and the Ames gifts, although somewhat reducing this difference in percentage, by no means make up for it. In 1902–03 the lowest rank on which a student won a scholarship was, in the Senior and Junior Classes, an average on four courses (the number prescribed for the Junior and Sophomore years on which the winning of the scholarship was based), of A in two courses and B in two, and in the Sophomore Class an average on five courses (the number prescribed for the Freshman year), of A in one course and B in four. The grades of A and B on the present marking scale of the Faculty may roughly be defined as Honors and Honorable Mention respectively. Few will deny that a student whose work deserves honorable mention is worth a college education, yet these figures show that a student whose work averaged B — in other words, whose work deserved honorable mention — stood no chance of winning a scholarship; or, to look at the situation from another point of view, a student may be entitled to the degree of Bachelor of Arts *magna cum laude* and yet not to a scholarship. It is without doubt true that a deserving student is seldom obliged absolutely to give up the hope of an education at Harvard for lack of means. The employment bureau of the Chairman of the Appointment Committee, and the generosity of undergraduates, of teachers, and of friends of the College can be relied upon to supply the means to keep body and soul together, — and there is danger, everyone admits, that too much help may weaken a man's independence and self-reliance, — but it is just as true that the constantly harassing uncertainty as to whence the money to meet the next bill is to come, and the necessity of taking from his studies a large amount of time to work to earn money prevent many a good man from getting the most profit from his courses.

B. S. HURLBUT, *Dean.*

THE LAWRENCE SCIENTIFIC SCHOOL.

To the President of the University: —

Sir, — As Dean of the Scientific School I submit the following report for the academic year 1902–03.

The number of students registered in this School during the academic year, as well as their distribution in classes and programmes, is indicated in the following tables: —

REGISTRATION BY CLASSES.

Class.	1901–02.	1902–03.
Fourth-Year	76	94
Third-Year	88	83
Second-Year	141	151
First-Year	157	136
Specials	87	120
Totals	549	584

SPECIAL STUDENTS.

Number of years in attendance.	1901–02.	1902–03.
One	59	91
Two	16	24
Three	6	3
Four	4	2
Five	2	0
Totals	87	120

REGISTRATION FOR ADMISSION EXAMINATIONS.

Year.	Preliminary.	Final.	Total.
1902	82	175	257
1903	96	176	272

DISTRIBUTION OF STUDENTS IN FOUR-YEAR PROGRAMMES.

Programme.	1901–02.	1902–03.
Civil Engineering	56	72
Mechanical Engineering	82	70
Electrical Engineering	49	61
Mining and Metallurgy	67	75
Architecture	29	35
Landscape Architecture	9	11
Chemistry	32	32
Geology	5	3
Biology	12	16
Anatomy, etc.	30	38
Teachers of Science	21	30
General Science	157	141
Totals	549	584

The variation in the number of students enrolled in the several programmes which is shown in the tables, though considerable, appears to have no especial significance except as regards that of General Science. In that four-year course there has been a progressive decrease from a total of 170 in the academic year 1900–01 to the numbers as indicated above for the two following years; as long foreseen by the officers of the School, the resort to this course is certain to be progressively reduced as the requirements for admission are brought nearer to those of Harvard College. A yet further reduction is to be expected in 1903, when the number of "points" required for admission to the College and the School will be the same.

In 1902 the number of "points" required for admission to the Scientific School was twenty-three, or three less than the number admitting to the College without conditions. In 1903 the demands in the way of preparation became equal, so that the effect of this long existing difference in the entrance requirements on the resort to the School now begins to disappear. Even now there remain certain slight variations in the studies which are required or may be offered for admission to the two schools; yet so far as the requirements can be weighed they are essentially equal, and will not, because of these differences, notably affect the choice of students as to which of the two schools they will enter. That choice will hereafter be determined either by preference for a group system over a purely elective system, or for the degree of Bachelor of Science over that of Bachelor of Arts.

The fact that with few and unimportant exceptions all the studies prescribed in the programmes of the Scientific School may be taken by students registered in the College, already leads many to enter the academic department, and there more or less nearly to follow some one of the four-year courses of study leading to the degree of Bachelor of Science. In many instances these students at the end of their Junior year transfer their registration to the Scientific School, taking their degree in Arts at the end of the first year of such residence, and that in Science at the end of the second or third year, in Engineering or Mining, etc. The increase in this custom of resorting to the College for three years as a preparation for work in the Scientific School has been such as to suggest that in the future this may be the usual method of gaining the Bachelor's degree in Science which will be followed by those who take the entrance examinations. Another indication which clearly points to the future work of the Scientific School is found in the increasing resort to its programmes of those who have had two or three years of training in colleges which do not provide instruction in applied science. These young men are following in other colleges the same path that, as above noted, many students are betaking themselves to in our own. They are evidently guided by the same purpose, which is, while intent upon a professional career, to use a part of the five or six years they are to devote to preparation for it in seeking a share of general culture.

The above noted tendencies, indicated by the previous studies of a considerable and increasing number of those who resort to the Scientific School, clearly point to the conclusion that in time a large, if not the largest, part of its service will consist in providing instruction to men who have already had a college education. It is as yet too soon to make these conditions the basis of action, yet it may well be foreseen that in time they will require considerable rearrangement in the plan of the School.

The most important addition to the teaching resources of the School made during the academic year 1902–03 consisted in the establishment of a programme in Forestry. For some years there has been a demand for professional instruction in this subject in the University; a number of students have availed themselves of the numerous studies collateral to that subject, with the intention of resorting to some school of forestry for the technical part of their education. The Administrative Board of this School have hitherto been doubtful as to the expediency of establishing a four-year course leading to the degree of Bachelor of Science in Forestry, for the reason that in this country there was no considerable demand for the services of men trained in that art. The recent surprising development of the profession with us, due mainly to the work of the Federal Bureau of Forestry, has suddenly changed this situation. There is now a steady demand for trained foresters to serve the Federal government or the corporate or other owners of forests. So far, the addition to the instruction in matters relating to forestry is to be given by two instructors, Mr. Richard T. Fisher and Mr. J. G. Jack; Mr. Fisher will have general charge of the programme. From the existing resources ample provision can be made for instruction in all the collateral subjects required in the course. The Arnold Arboretum, the Bussey Institution, and the Botanic Garden afford excellent means of illustration. Thus, with two or three competent teachers in technical Forestry, the programme can be made efficient. The School is much indebted to Mr. Gifford Pinchot, Forester of the Department of Agriculture, for advice and assistance in the work of establishing this four-year course.

The discipline of the School remains as it has been for some years, in a satisfactory state; during the academic year 1902–03 no student was reported to the Faculty for any grave offence. One hundred and thirty-five were put on probation, ten for breach of rules and one hundred and twenty-five for failure to attain satisfactory grades; the probation of twenty-six students was closed.

During the year no student died, and the cases of serious illness were very few in number. The average number "signed off" in term-time was about eleven, or approximately two per cent. of those in attendance. The Stillman Infirmary has proved a very great advantage to those who were seriously ill and who could not be sent to their homes. The assurance that all within its walls were well cared for has been a great relief to the Dean.

N. S. SHALER, *Dean.*

ATHLETIC SPORTS.

To the President of the University: —

Sir, — I respectfully submit the following report on Athletic Sports for the year 1902–03.

The numbers engaged in the various sports have been ascertained by a systematic canvass of all students in the University. Circulars were sent out with blank spaces to be filled in by the students. Replies were received from those registered in the several departments, as follows: —

College	1648	out of	2109 = 78.1	per cent.
Scientific School	402	"	584 = 68.8	"
Graduate School	77	"	316 = 24.3	"
Law School	398	"	640 = 62.2	"
Medical School	327	"	445 = 75.7	"
Dental School	89	"	112 = 79.5	"
Divinity School	19	"	37 = 51.4	"
Bussey Institution	3	"	33 = 9.0	"
	2963	"	4276 = 69.3	"

The numbers in the various sports and exercises were as follows: —

Foot-ball	456
Base-ball	466
Rowing	424
Track games	306
Lawn tennis	1392
Cricket	63
Lacrosse	80
Hockey	319
Golf	540

Basket-ball	278
Hand-ball	607
Gymnasium exercises	1622
Other exercises and sports	2183
No exercise or sport of any kind	220
Total	8956
Names counted two or more times	5993
Total separate individuals	2963

It will be observed that many students engage in more than one kind of sport or exercise, and it seems to be demonstrated that of those who replied all excepting 220 took fairly regular exercise of some kind during the year. It is apparently the custom for a large number of students to go to the gymnasium during the winter months, and to enter tennis or other lighter sports during the fall and spring months. Probably many who failed to reply to the interrogatories could be classified as men taking regular exercise. This list was prepared in the hope of shedding light upon the question of prescribing some kind of physical training to all students, and it seems doubtful if there would be any substantial gain by a fixed requirement in connection with the degree.

Foot-ball. — During the year constant efforts were made to improve the conditions under which this game is played. They were directed, first, towards greater uniformity in eligibility rules in order to lessen the causes of disputes; and, second, towards a modification of the rules for playing, in order to reduce the risk of injury and to render the game more interesting to players and spectators. In connection with eligibility, an agreement was arranged between Harvard and Yale Universities by which all players, not only of foot-ball but also players in the other sports, should come under the same rules at both places. This agreement promises to lessen the suspicions which have prevailed in the past. It should promote a friendly feeling between the students and graduates of the two universities in connection with their athletic contests.

The rules for playing the game seemed to be more difficult to deal with, as all universities must necessarily play under the same rules, and, where so many are concerned, it is almost impossible to reach an acceptable understanding. The rules were, however, modified by the general rules committee, with the expectation of making a more open game, and, in consequence, one more interesting to the players and their friends.

The injuries during the year were not so great as in previous years, and few students came out of the season any the worse physically for having engaged in the sport. There is one phase of foot-ball, however, which should engage the attention of all college men, — that is, the promotion of honor and fairness upon the field, and in the preparation of teams. In the main the players are disposed to keep within the rules in their games, and if left to themselves or if brought into contact only with the best advisers, would probably in the end make foot-ball a game wholly unobjectionable. It is unfortunate that the game should be regulated and directed so entirely by coaches whose point of view is strategy. Under the present system, violation of the rules can be concealed from the spectators and even from the officials of the game, thus giving an advantage to unscrupulous players and coaches.

Other Sports. — There has been no change in the other sports worthy of note during the year. The Committee devoted some attention to the study of the minor sports with a view of lessening the absences from Cambridge during the winter. Some rule looking to the abatement of the winter sports may seem advisable, although the young men who affect these kinds of sport, — such as basket-ball, fencing, and hockey, — are generally not those who take part in the other sports.

Grounds and Buildings. — During the early summer two pieces of property on the south side of Soldier's Field were added to the play-grounds, thus surrounding the entire property with streets or public reservations. These purchases will enable the University to continue the development of the Field in a very satisfactory manner. In the latter part of June ground was broken for the replacement of the old foot-ball stands by a Stadium to be built of concrete and steel. The money for this purpose was in part saved out of the athletic income and in part given by the Class of 1879. The Stadium was designed as to its architectural features by Mr. George B. de Gersdorff, under the advice of Mr. McKim; and as to its structural features by Professor L. J. Johnson, with the advice of Mr. J. R. Worcester. The work was prosecuted during the summer under the direction of Professor Johnson, without a contract for a lump sum, but by days' labor. This seemed on the whole the most satisfactory method of securing a good building, as it was very difficult to make any estimate of the cost of concrete built as designed. Up to September 1, when the year closed, the work had proceeded rapidly.

The construction of these stands will free the University from any anxiety as to fire or decayed wooden supports. A serious warning was conveyed by the destruction of one of the base-ball stands during a game between Harvard and Princeton. The largest stand on the field took fire and was wholly consumed within twenty minutes. Fortunately, the spectators were able to reach the ground without injury to anyone. Several times during the past few years small fires have been discovered and put out on the main foot-ball stands. The University is fortunate to have escaped any serious accident. It is hoped that the Stadium when completed may prove useful for other things besides athletics. It would be a good place for Class Day exercises.

IRA N. HOLLIS.

THE GRADUATE SCHOOL.

To the President of the University: —

Sir, — As Dean of the Graduate School I have the honor to submit my report upon the School for the academic year 1902–03.

The members of the Administrative Board were Professors C. L. Jackson, Davis, M. Warren, Lyon, von Jagemann, Channing, Kittredge, Münsterberg, and Bôcher, and the Dean of the School. The members who had not been in service the previous year were Professors Lyon and Channing. The Board met eleven times in the course of the year.

The subjects to be considered in this report are, first, the membership of the School; secondly, the degrees for which recommendations were made at the close of the year, and the holders of those degrees; thirdly, fellowships and scholarships; and, fourthly, miscellaneous topics, and in particular recent legislation by the Faculty of Arts and Sciences with reference to the degree of Master of Arts. Statistics on many of these points are given in the tables: —

I. Number and classification of students (Resident and Non-Resident; students doing full or partial work; fields of study; length of connection with the School; holders of Bachelors' and of higher degrees): 1900–01, 1901–02, 1902–03.

II. Resident Students doing full work, and Non-Resident Students: 1886–1903.

III. Percentage of students in their first and following years: 1897–1903.

IV. Colleges and Universities represented, with degrees held: 1902–03.

V. Percentage of students from other colleges: 1896–1903.

VI. Percentage of Bachelors' degrees of different kinds: 1897–1903.

VII. Colleges and Universities represented by four or more graduates in the School: 1898–99, 1899–1900, 1900–01, 1901–02, 1902–03.

VIII. Birthplaces of Graduate Students: 1896–1903.

IX. Residences of Graduate Students: 1899–1903.

X. Recommendations for degrees in 1901, 1902, 1903.

XI. Divisions and Departments in which recommendations for the higher degrees were made in 1903.

XII. Age of Graduate Students recommended for the Masters' and Doctors' degrees: 1903.

XIII. Age of Graduate Students recommended for the degree of Doctor of Philosophy: 1897–1903.

XIV. Fellowships and Scholarships: numbers and classifications of applicants and appointees in 1901–02, 1902–03, 1903–04.

STUDENTS.

The number of students registered in the School for 1902–03 was three hundred and twenty-five, ten more than in the preceding year, seventy-seven less than in the current year (November, 1903). Besides these three hundred and twenty-five who were registered members of the School might be included fifty Seniors in Harvard College (Class of 1903) who in their Senior year were pursuing studies that had been approved for the degree of Master of Arts.

TABLE I. — NUMBER AND CLASSIFICATION OF STUDENTS.

	1900–01.		1901–02.		1902–03.	
I. Resident Students doing full work in the School for the whole academic year	226		218		216	
Resident Students not doing full work or not working for the whole year as resident students	113		86		94	
	—	339	—	304	—	310
Non-Resident Students holding fellowships	14		11		15	
Non-Resident Students not holding fellowships	0		0		0	
	—	14	—	11	—	15
II. Students whose studies lay chiefly in *						
1. Semitic Languages and History	1		1		1	
2. Ancient Languages (Classics and Sanskrit)	47		41		37	
3. Modern Languages (including Comparative Literature)	75		70		74	
4. History and Political Science	53		52		52	
5. Philosophy (including Education)	65		41		50	
6. Fine Arts (including Architecture)	4		6		11	
7. Music	1		1		0	
8. Mathematics	20		17		22	
9. Engineering	6		6		5	
10. Physics	14		13		12	
11. Chemistry	19		21		24	
12. Biology	21		23		19	
13. Geology	14		13		12	
14. Anthropology	3		2		2	
Unclassed Students	10		8		4	
	—	353	—	315	—	325
III. First-year Students	189		157		175	
Second-year Students	83		83		83	
Third-year Students	52		36		36	
Fourth-year Students	14		27		13	
Students in a fifth or later year	15		12		18	
	—	353	—	315	—	325

* For detailed statistics as to the number of Graduate Students enrolled in the various courses of instruction offered by the Faculty of Arts and Sciences, see the Report of the Dean, pp. 58–88.

IV. A.B.'s and S.B.'s of Harvard University and of no other institution	101		94		96	
A.B.'s and S.B.'s (and holders of similar degrees) of other institutions and also of Harvard University	33		43		26	
Students not holding the Harvard degree of A.B. or S.B.	219		178		203	
		353		315		325
Students holding the Harvard degree of A.M., S.M., Ph.D., or S.D.	110		100		100	
Students holding the Harvard degree of A.B. or S.B., but not of A.M., S.M., Ph.D., or S.D.	88		90		72	
Students holding no Harvard degree in Arts, Philosophy, or Science	155		125		153	
		353		315		325

Admission to the Graduate School is ordinarily granted to holders of the Bachelor's degree of colleges of good standing and to a few other persons of maturity. The colleges and universities that were represented in the School in 1902–03 are named in Tables IV and VII.

The foregoing table (Table I) exhibits the usual classification of the students of the School and is given for convenience of comparison for the three successive years, 1900–01, 1901–02, 1902–03. My comments on this table will have reference, first, to the members of the School in general and to the amount of work done by them; secondly, to their fields of study; thirdly, to their period of residence, and, fourthly, to the extent to which the School draws its members from Harvard University as contrasted with other institutions.

Of the Resident Students two hundred and seventy-six were in attendance throughout the whole year. Of this number two hundred and sixteen were doing what is technically called a full year of work. Sixty of those in residence throughout the year were doing partial work. Of the remaining thirty-four Resident Students ten entered the School after November 15, fifteen withdrew before February 15, and nine others before the end of the year.

Table II, which supplements Table I, gives the statistics since 1886–87, when such statistics were first recorded, of Resident Students doing full or partial work and of Non-Resident Students. The Graduate School contains two distinct classes of students: the first consists of men who are devoting all their time to their university work; the steady increase in the percentage of these men — from fifty-nine per cent. in 1886–87 to seventy per cent. in 1902–03 — is an encouraging sign. But the second class, men who devote but a portion of their working time to studies in the Graduate School — clergymen, teachers in schools and colleges in eastern

TABLE II. — RESIDENT STUDENTS DOING FULL WORK, AND NON-RESIDENT STUDENTS: 1886–1903.

	1886–87.	1887–88.	1888–89.	1889–90.	1890–91.	1891–92.	1892–93.	1893–94.	1894–95.	1895–96.	1896–97.	1897–98.	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.
Resident Students doing full work in the School for the whole academic year	38	48	50	62	62	108	127	162	161	175	194	171	218	227	226	218	216
Resident Students not doing full work or not working for the whole year as Resident Students	26	36	39	34	55	79	73	86	94	105	96	107	103	99	113	86	94
Whole number of Resident Students	64	84	89	96	117	187	200	248	255	280	290	278	321	326	339	304	310
Non-Resident Students holding fellowships	10	10	9	11	11	9	9	10	12	13	14	15	12	13	14	11	15
Non-Resident Students not holding fellowships	4	3	1	4	4	4	7	1	5	6	2	. .	8	2	. .	. .	. .
Whole number of Non-Resident Students	14	13	10	15	15	13	16	11	17	19	16	15	15	15	14	11	15
Whole number of students	78	97	99	111	132	200	216	259	272	299	306	293	336	341	353	315	325
Percentage of Resident Students doing full work for whole academic year	59	57	56	65	53	58	64	65	63	63	67	62	68	70	67	72	70

Massachusetts, and other professional men — is highly important. This number might well be much larger.

The group of Non-Residents in 1902–03 included, as for three years past, only holders of travelling fellowships.

The second division of Table I indicates in general the fields of learning and science in which the work of the students lay. As, however, many students did fringes of work in Departments outside their own, these statistics cannot completely show the choice of studies of Graduate Students. Exact information on this point is given in the Report of the Dean of the Faculty of Arts and Sciences (see above, pp. 55–83).

In 1902–03 the subjects of study arranged according to the number of students who specialized in them were: —

Modern Languages,
History and Political Science,
Philosophy (including Education),
Ancient Languages,
Chemistry,
Mathematics,
Biology,
Geology,
Physics,
Fine Arts,
Engineering,
Anthropology,
Semitic.

As in previous years there was an almost equal division between the three great groups of the languages, ancient and modern (thirty-five per cent.), the historical and philosophical sciences (thirty-six per cent.), and the mathematical, physical and natural sciences (twenty-nine per cent.). More than two-thirds of the students in the Graduate School at this University are devoted to the pursuit of languages and literature, together with history, philosophy, and the fine arts; as against less than one-third who pursue mathematics and the physical and biological sciences. The persistence of these proportions through successive years is an interesting phenomenon.

There are slight differences between the several Divisions in respect to the proportion of their students who receive higher degrees at the close of the year. In the Divisions in which five or more men took higher degrees at Commencement (see Tables X and XI), we find that in Geology five-sixths of the students received such degrees; in Physics, two-thirds; in Ancient Languages, in Modern Languages, in History and Political Science, and in Chemistry, about one-half; in Philosophy and in Mathematics, about one-third; and in Biology, about one-fourth.

The next division of the table, with which Table III should be compared, shows that the percentage of men who were in the School for a second year has varied but slightly from year to year, while that of men who have been at the School for three or more years has varied a little more. As in the past, a little more than one-half of the students have been in the School but one year; about forty per cent. of these received a Master's degree at the close of the year (sixty-eight Masters of Arts, and four Masters of Science). About one-fourth were in their second year, and the remaining fourth were in their third or in a later year of residence. Many of the First-Year Students had before entering the School pursued graduate studies elsewhere, so that their first year at this University was for them a second or third year of graduate study. Statistics show that the majority of the men who come to the Graduate School intend to remain in it but a single year. This single year should be made for them the best possible year.

Table III. — Percentage of Students in their first and following years: 1897–1903.

	1897–98.	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
First-year Students . .	51	55	53	54	50	54
Second-year Students .	25	21	25	23	26	26
Third-year Students .	15	13	11	15	12	11
Fourth-year Students and Students of longer residence .	9	11	11	8	11	9

There are striking differences between the membership of the Graduate School and that of the professional schools. In the latter nearly all the students are fresh from college. In the Graduate School, however, only a small proportion are fresh from college; the Graduate Students are ordinarily rather mature young men, who in many instances have already been engaged in teaching or in graduate work elsewhere. Thus, of the First-Year students in 1902–03, only about thirty-two per cent. entered the School immediately after receiving their first degree in Arts or Science (fifty-six); of the same class in 1901–02 the proportion was twenty-six per cent. Fourteen per cent. had been one year out of college, *i. e.*, had received their degrees in 1901 (twenty-three); fifteen per cent. had received their degrees in 1900 (twenty-five); ten per cent. in 1899 (seventeen); while the remainder — about thirty per cent. — had received their first degrees in 1898 or in an earlier year, *i. e.*, four or more years before entering the Graduate School.

TABLE IV. — COLLEGES AND UNIVERSITIES, WITH DEGREES HELD: 1902–03.

	A.B.	S.B.	LITT.B.	PH.B.	A.M.	S.M.	PH.D.	S.T.B.	LL.B.	M.D.	No. Degrees.	No. Persons.
Albany Law School, N. Y.	...	...	...	...	...	...	...	...	2	...	2	2
Albion College, Mich.	1	...	...	...	...	...	...	...	...	...	1	1
Amherst College, Mass.	9	1	...	...	3	...	...	...	...	...	13	10
Bates College, Me.	3	...	...	...	1	...	...	...	...	...	4	3
Beloit College, Wis.	2	1	...	1	...	...	...	...	...	...	4	4
Boston University, Mass.	1	...	...	...	...	...	...	...	...	...	1	1
Bowdoin College, Me.	7	...	...	...	1	...	...	...	...	...	8	7
Brown University, R. I.	9	...	...	2	4	...	...	...	...	...	15	11
Bucknell University, Pa.*	2	...	...	1	1	...	...	...	...	...	5	3
California, University of *	3	1	1	1	2	...	...	...	...	...	9	6
Carleton College, Minn.	1	...	...	...	...	...	...	...	...	...	1	1
Central College, Mo.	1	...	...	...	...	...	...	...	...	...	1	1
Chicago, University of, Ill.*	1	...	...	3	1	1	...	...	...	...	7	7
Cincinnati, University of, O.	...	1	1	...	...	...	...	...	...	...	2	2
Colby College, Me.	2	...	...	...	2	...	...	...	...	...	4	2
Colgate University, N. Y.	2	...	...	1	...	...	...	...	...	...	3	3
Colorado College	1	...	...	...	...	...	...	...	...	...	1	1
Columbia University, N. Y.	2	...	...	...	3	...	...	...	1	...	6	6
Cornell College, Ia.	2	...	...	...	...	...	...	...	...	...	2	2
Cornell University, N. Y.	...	1	...	...	...	...	...	...	...	...	1	1
Dalhousie University, N. S.	2	...	...	...	2	...	...	...	...	...	4	2
Dartmouth College, N. H.	7	...	...	...	3	...	...	...	...	...	10	7
Davidson College, N. C.	1	...	...	...	1	...	...	...	...	...	2	1
Denison University, O.	2	...	...	...	...	...	...	...	...	...	2	2
De Pauw University, Ind.	1	...	...	...	...	...	...	...	...	...	1	1
Dickinson College, Pa.	1	...	...	...	...	...	...	...	...	...	1	1
Drew Theological Seminary, N. J.	...	...	...	...	...	...	...	1	...	...	1	1
Drury College, Mo.	1	...	...	...	1	...	...	...	...	...	2	1
Emory College, Ga.	...	1	...	...	...	...	...	...	...	...	1	1
Episcopal Theological School, Cambridge	...	...	...	...	...	...	...	1	...	...	1	1
Gates College, Neb.	1	...	...	...	...	...	...	...	...	...	1	1

General Theological Seminary, N. Y.	...	...	...	...	...	...	...	1	...	...	1	1
Hamilton College, N. Y.	1	...	...	...	...	...	...	...	...	...	1	1
Hamline University, Minn.	...	...	...	1	...	...	...	...	...	...	1	1
Hanover College, Ind.	1	...	...	...	...	...	...	...	...	...	1	1
Harvard University*	112	10	...	...	95	4	6	1	1	...	230	174
Haverford College, Pa.	5	...	...	...	2	...	...	...	...	...	7	5
Hobart College, N. Y.	3	...	...	...	...	...	...	...	...	...	3	3
Illinois Wesleyan University	...	...	...	1	...	...	1	...	...	...	2	1
Illinois, University of	1	1	...	...	...	1	...	...	...	...	3	1
Indiana University	2	...	...	...	1	...	...	...	...	...	3	3
Johns Hopkins University, Md.	1	...	...	...	...	...	...	...	...	...	1	1
Kansas City University	1	...	...	...	...	...	...	...	...	...	1	1
Kansas, University of	2	...	...	...	2	...	...	...	...	...	4	3
Keiogijuku University, Japan	1	...	...	...	...	...	...	...	...	...	1	1
Kenyon College, O.	1	...	...	...	1	...	...	...	...	...	2	1
King's College, N. S.	1	...	...	...	1	...	...	...	...	...	2	1
Lake Forest University, Ill.	1	...	...	...	...	...	...	...	...	...	1	1
Leland Stanford Jr. University, Cal.	6	...	...	...	2	...	...	...	...	...	8	6
Lincoln University, Ill.	1	...	...	...	...	...	...	...	...	...	1	1
Lombard University, Ill.	1	...	...	...	...	...	...	...	...	...	1	1
McGill University, Que.	...	1	...	...	...	1	...	...	...	...	2	1
McMaster University, Ont.	1	...	...	...	...	...	...	...	...	...	1	1
McMinnville College, Ore.	...	...	1	...	...	...	...	...	...	...	1	1
Manhattan College, N. Y.	1	...	...	...	...	...	...	...	...	...	1	1
Massachusetts Institute of Technology	...	1	...	...	...	...	...	...	...	...	1	1
Miami University, O.	1	...	...	...	1	...	...	...	...	...	2	1
Michigan, University of	5	...	...	2	1	...	...	...	...	...	8	7
Middlebury College, Vt.	2	...	...	...	1	...	...	...	...	...	3	2
Minnesota, University of	1	...	...	...	...	...	...	...	...	...	1	1
Missouri Valley College, Mo.	...	...	...	1	...	...	...	...	...	...	1	1
Mount Union College, O.	1	...	...	...	...	...	...	...	...	...	1	1
National Normal University, O.	...	1	...	...	...	...	...	...	...	...	1	1
Nebraska, University of	...	1	...	...	1	...	...	...	...	...	2	1
New Brunswick, University of	2	...	...	...	...	...	...	...	...	...	2	2
New York University	...	1	...	1	...	...	1	...	...	1	4	4

* See note on page 127.

TABLE IV. — CONTINUED.

	A.B.	S.B.	LITT.B.	PH.B.	A.M.	S.M.	PH.D.	S.T.B.	LL.B.	M.D.	No. Degrees.	No. Persons.
North Carolina, University of	1	...	...	1	1	...	...	...	...	...	3	2
Northwestern University, Ill.	4	1	...	...	3	1	...	...	...	...	9	6
Oberlin College, O.	1	...	...	...	...	...	...	...	...	...	1	1
Ohio State University	1	1	...	...	1	1	...	...	...	...	4	2
Ohio Wesleyan University	5	...	...	...	1	...	...	...	...	...	6	5
Oregon, University of	2	...	...	...	...	...	...	...	...	...	2	2
Pennsylvania, University of	2	1	...	...	...	...	...	...	...	...	3	3
Polytechnic Institute of Brooklyn, N.Y.	...	1	...	...	...	...	...	...	...	...	1	1
Princeton University, N. J.*	2	...	...	...	1	...	...	...	...	...	3	3
Queen's University, Ont.	...	...	...	...	1	...	...	...	...	...	1	1
Rochester, University of, N. Y.	2	...	...	...	...	...	...	...	...	...	2	2
Rutgers College, N. J.	1	...	...	...	...	...	...	...	...	...	1	1
St. Lawrence University, N.Y.	1	...	...	...	1	...	...	...	...	...	1	1
State of Missouri, University of the	1	...	2	...	...	...	...	...	...	...	3	3
State University of Iowa	...	1	...	...	1	1	...	...	...	...	3	2
Strasburg, University of, Germany	...	...	...	...	...	...	1	...	...	...	1	1
Swarthmore College, Pa.	...	1	...	...	...	...	...	...	...	...	1	1
Tabor College, Ia.	1	...	...	...	...	...	...	...	...	...	1	1
Texas, University of	4	1	...	...	4	...	...	...	...	...	9	5
Toronto, University of, Ont.	3	...	...	...	...	...	...	...	...	...	3	3
Trinity College, Conn.	5	...	...	...	1	1	...	...	...	...	7	6
Trinity College, N. C.	1	...	...	...	3	...	...	...	...	...	4	3
Tufts College, Mass.	6	...	...	...	4	...	...	...	...	...	10	6
Union University, N.Y.	1	...	...	...	1	...	...	...	...	...	2	1
Upper Iowa University	...	...	...	1	...	...	...	...	...	...	1	1
Utah, University of	...	1	...	...	...	...	...	...	...	...	1	1
Vanderbilt University, Tenn.	1	...	...	...	1	...	...	...	...	...	2	1
Wabash College, Ind.	1	...	...	...	...	...	...	...	...	...	1	1
Washington and Jefferson College, Pa.	2	...	...	...	1	...	1	...	...	...	4	2
Washington University, Mo.	...	1	...	...	...	...	...	...	...	...	1	1
Weatherford College, Tex.	1	...	...	...	...	...	...	...	...	...	1	1

Wesleyan University, Conn.	3	...	...	...	...	...	...	...	...	...	3	3
Western Reserve University, O.	1	...	1	...	...	...	...	...	...	...	2	2
Western University, Ont.	1	...	...	...	...	...	...	...	...	...	1	1
West Virginia University	3	...	...	...	1	...	...	...	...	...	4	3
Williams College, Mass.	4	...	...	...	1	...	...	...	...	...	5	4
Wisconsin, University of	1	2	...	...	...	2	...	...	...	...	5	3
Wofford College, S.C.	3	...	...	...	...	...	...	...	...	...	4	4
Worcester Polytechnic Institute, Mass.	...	1	...	...	...	...	...	...	...	...	1	1
Yale University, Conn.	5	...	...	...	1	...	...	...	...	...	6	6
Total	290	34	6	17	161	13	10	4	4	1		424
Non-Graduates and other Graduates (see note)												11
												435
Deduct for names counted twice or more than twice												110
												325

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* Besides the degrees enumerated above, the following were held by one or two persons as indicated: D.D., Wofford College, S.C.; Litt.M., University of California; Ph.M. (2), Bucknell University, Pa., and the University of Chicago; Heb.B. and Rabbi, Hebrew Union College, O.; Pd.M., Michigan State Normal School; Pd.B. (2), Michigan State Normal School and New York State Normal College; S.D.B., Missouri State Normal School, Warrensburg; B.A.S., Harvard University. There were, further, in the School one graduate each of Andover Theological Seminary, Mass.; Princeton Theological Seminary, N.J.; and Western Theological Seminary, Pa. There were two students from European Universities who had received no academic degree. There was one non-graduate of Harvard College who at Commencement received an A.B. as of the class of 1902; and there were two non-graduates of the Lawrence Scientific School.

The fourth division of Table I shows in general the extent to which the School draws its members from Harvard University as contrasted with other institutions; for detailed information on this point Tables IV and VII may be consulted. About fifty-three per cent. of the members of the School held a degree from Harvard University, and the remaining forty-seven per cent. of course held no Harvard degrees; in 1901–02 these percentages were sixty and forty respectively. (See Table V, and pp. 120 ff.)

Tables IV–VII supplement each other and show in detail the extent to which different parts of the country and the different higher institutions contribute to the membership of the Graduate School. In Table IV are given the various colleges and universities, including professional and technical schools, American and foreign, whose graduates were members of the School in 1902–03, together with the degrees these men held and the number of different men from each institution.

The tables show that men continue to come to the Graduate School from colleges and universities in all parts of the country, and, to a slight extent, from those in Canada and foreign lands. The entire number of institutions thus represented is one hundred and fourteen. Of the one hundred and seventy-five First-Year men thirty-three per cent. came from Harvard; twenty per cent. from other New England colleges; twenty-four per cent. from colleges in the Central States; twelve per cent. from colleges west of the Mississippi; six per cent. from colleges in the Southern States; while only three per cent. came from Canadian institutions. As compared with the previous year, the institutions in Canada and in the Central States alone show a diminished proportion in their representatives in the Graduate School.

The most common degree held by members of the School was that of Bachelor of Arts (two hundred and ninety); next, that of Master of Arts (one hundred and sixty-one).

TABLE V. — PERCENTAGE OF STUDENTS FROM OTHER COLLEGES.

	1896–97.	1897–98.	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.
Percentage of Students holding no Harvard degree	40	40	41	44	44	40	46
Percentage of Students holding no Harvard first degree in Arts or Sciences	52	55	55	61	62	56	62

TABLE VI. — PERCENTAGE OF BACHELORS' DEGREES OF DIFFERENT KINDS: 1897–1903.

	1897–98.	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.
A.B.'s	84	86	84	80	84	83
S.B.'s	9	8	10	11	11	10
Other Bachelors' degrees	7	6	6	9	5	7

There were one hundred and sixty-one Masters of Arts, thirteen Masters of Science, and ten Doctors of Philosophy in the School in 1902–03, as against one hundred and forty-eight Masters of Arts, sixteen Masters of Science, and twelve Doctors of Philosophy in the preceding year.

The list of colleges that send four or more men each to the Graduate School shows slight variation from former years. Leaving Harvard graduates out of consideration, there were in 1896–97 fourteen colleges represented by four or more men; in 1897–98, eighteen; in 1898–99, fifteen; in 1899–1900, twenty-four; in 1900–01, twenty-three; in 1901–02 seventeen; and in 1902–03, twenty.

The colleges and universities that have been steadiest in the supply of Graduate Students for the past five years, each sending four or more each year, are Amherst, Bowdoin, Brown, California, Haverford, Tufts, and Yale. Other colleges that within this period have sent, for four years, four or more men, are Michigan, Northwestern, and Toronto; and for three years, Beloit, Dalhousie, Dartmouth, Kansas, Leland Stanford Jr., Oberlin, and Williams. The increase in the number of men from Chicago and Columbia in the last three years is noteworthy.

Even a cursory examination of the tables shows that a very large proportion of the students have pursued graduate studies before beginning the work of the year. In 1902–03, two-thirds of the members of the School (two hundred and eighteen) had previously carried on such studies, there having been only one hundred and seven that had not. Of this two-thirds, ninety-one students — or a little more than one-quarter of the whole number — had carried on these graduate studies at other universities.

With these "migrants" might very properly be grouped teachers who are in the School on formal leave of absence and expect to return to the positions they have left. The number of such men

TABLE VII. — COLLEGES AND UNIVERSITIES REPRESENTED BY FOUR OR MORE GRADUATES IN THE SCHOOL: 1898–99, 1899–1900, 1900–01, 1901–02, 1902–03.

1898–99.		1899–1900.		1900–01.		1901–02.		1902–03.	
Harvard,	198	Harvard,	191	Harvard,	197	Harvard,	189	Harvard,	174
Yale,	10	California,	8	Brown,	11	Amherst,	8	Brown,	11
Brown,	8	Amherst,	7	Amherst,	10	Bowdoin,	8	Amherst,	10
California,	8	Michigan,	7	Bowdoin,	9	Brown,	8	Bowdoin,	7
Leland Stanford Jr.,	7	Oberlin,	6	Oberlin,	9	California,	7	Dartmouth,	7
Toronto,	7	Leland Stanford Jr.,	6	California,	7	Toronto,	6	Chicago,	7
Bowdoin,	6	Northwestern,	6	Illinois,	7	Dalhousie,	5	Michigan,	7
Northwestern,	6	Brown,	5	Michigan,	7	Dartmouth,	5	Columbia,	6
Tufts,	6	Haverford,	5	Yale,	7	Ohio Wesleyan,	5	Leland Stanford Jr.,	6
Amherst,	5	Pennsylvania,	5	Dartmouth,	6	Trinity (Conn.),	5	Northwestern,	6
Haverford,	5	Toronto,	5	Toronto,	6	New Brunswick,	5	Tufts,	6
Indiana,	5	Tufts,	5	Wesleyan (Conn.),	6	Missouri,	5	California,	6
Iowa,	5	Wesleyan (Conn.),	5	Williams,	6	Haverford,	4	Yale,	6
Kansas,	5	Beloit,	4	Boston Univ.,	5	Oberlin,	4	Haverford,	5
Michigan,	4	Boston Univ.,	4	Kansas,	5	Princeton,	4	Ohio Wesleyan,	5
Western Reserve,	4	Bowdoin,	4	Northwestern,	5	Tufts,	4	Trinity (Conn.),	5
		Colby,	4	Pennsylvania,	5	Yale,	4	Texas,	5
		Dalhousie,	4	Tufts,	5			Beloit,	4
		Indiana,	4	Beloit,	4			New York,	4
		Kansas,	4	Dalhousie,	4			Williams,	4
		Nebraska,	4	Haverford,	4			Wofford,	4
		Rochester,	4	Nebraska,	4				
		Western Reserve,	4	New Brunswick,	4				
		Williams,	4						
		Yale,	4						
Total Membership,	336		341		353		315		325

is much larger than in previous years; seventeen colleges were represented in the School by professors or other instructors on leave of absence, and nine preparatory schools or institutions of similar grade. This enumeration does not include the large number of men who were actively engaged in teaching in or near Cambridge and Boston, either in the University or independently, and were registered for partial work. There were twenty such in the service of this University (exclusive of forty-four who were "assistants"), and ten other teachers or heads of schools in eastern Massachusetts.

TABLE VIII. — BIRTHPLACES OF GRADUATE STUDENTS: 1896–1903.

	1896–97.	1897–98.	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.
Students born in the New England States	141	121	143	122	127	107	122
Students born in other Northern States east of the Mississippi River	86	89	106	119	136	109	108
Students born in Southern States east of the Mississippi River . .	13	19	15	17	16	11	14
Students born in States west of the Mississippi River	25	26	30	34	30	39	39
Students born in the Dominion of Canada	17	18	25	23	21	22	16
Students born in other foreign countries	24	20	17	26	23	27	26
Total number of students . .	306	293	336	341	353	315	325
Percentage of students born in New England	46	41	43	36	36	34	38
Percentage of students born elsewhere	54	59	57	64	64	66	62

TABLE IX. — RESIDENCES OF GRADUATE STUDENTS: 1899–1903.

	1899–1900.	1900–01.	1901–02.	1902–03.
New England States	154	167	146	167
Northern States east of the Mississippi River .	94	99	88	88
Southern States east of the Mississippi River .	22	16	11	12
States west of the Mississippi River	45	46	45	40
Canada	19	18	19	12
Foreign countries	7	7	6	6
	341	353	315	325

These tables (VIII, IX) show that from one-half to two-thirds of the students for the past seven years were born out of New England, and that — until last year — this proportion had been increasing. On the other hand, the proportion of those who claim residence in New England is much larger — more than one-half in 1902–03 — and is also increasing. Obviously a considerable number of persons born out of New England have taken up residence in it, though in many cases this may be only a temporary residence. The proportion of students from Canada and the Southern States is less than it used to be.

Of the three hundred and twenty-five students in the School in 1902–03 forty-nine were married men, the wives and families of most of them accompanying them to Cambridge. Of these married men eleven were holders of fellowships or scholarships, including seven Austin Scholars.

DEGREES.

One hundred and sixty-four men were recommended* for the higher degrees of Doctor and Master at Commencement, 1903, being one more than in 1902, and two more than in 1901. This number was exceeded only in 1900 — one hundred and seventy — when the School was larger by twenty-eight than in 1902–03. The steady and almost unvarying growth of the number of approved candidates for the higher degrees, in spite of minor fluctuations in the numbers of the students, is an encouraging sign.

The details are found in the following table (X), which gives in the first and second parts the number of students in the Graduate School recommended by the Faculty of Arts and Sciences for any degree, and the number of other students recommended for the degree of Master of Arts, Master of Science, Doctor of Philosophy, and Doctor of Science in the three years, 1901, 1902, 1903. In the third part of the table all persons recommended for the higher degrees are classified with reference to their previous graduation as Bachelors of Arts or of Science.

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* The number of persons recommended each year, and that of the men who actually receive the degree, as published in the Annual Catalogue, do not always agree. Usually a few of the candidates recommended do not receive the degree at once. The degree is in these cases ordinarily conferred in a later year, "as of" the year in which the recommendation was made.

TABLE X.—RECOMMENDATIONS FOR DEGREES IN 1901–03.

		1901.		1902.		1903.	
I.	Graduate Students recommended for A.B. . .	13		11		10	
	Graduate Students recommended for A.M. . .	92		94		97	
	Graduate Students recommended for S.M. . .	9		8		6	
	Graduate Students recommended for Ph.D. .	29		28		28	
	Graduate Students recommended for S.D. . .	0	143	3	144	1	142
II.	College Seniors recommended for A.M. . . .	1		1		1	
	College Seniors of a preceding year, recommended for A.M. on work done in Senior year	23		19		24	
	College Juniors of a preceding year, recommended for A.M. on work done in Junior year	0		0		1	
	L.S.S. fourth-year men of a preceding year, recommended for S.M. on work done in L.S.S. fourth-year	0		0		1	
	Professional students recommended for A.M. on special courses of study	8		10		5	
	Professional students recommended for Ph.D. on special courses of study	0	32	0	30	0	32
	Total of the above list		175		174		174
	Deduct Graduate Students recommended for A.B.		13		11		10
	Total number recommended for A.M., S.M., Ph.D., and S.D.		162		163		164
III.	Harvard Bachelors of Arts or Science, not previously graduated elsewhere	59		58		68	
	Harvard Bachelors of Arts or Science, previously graduated elsewhere	20		31		12	
	Students not Harvard Bachelors of Arts or Science	83	162	74	163	84	164

Several comments on this table suggest themselves. About eighteen per cent. of holders of the higher degrees had never been registered in the Graduate School; these were men who had completed their work as undergraduates (twenty-five Seniors, one Junior, one Lawrence Scientific School Senior) or as members of a professional school (five), their programmes of study for the degree of Master of Arts or Master of Science having been previously approved by the Administrative Board.

The gradual increase in the proportion of non-Harvard men who are coming up for the higher degrees, which was checked in 1902, was continued in 1903. The proportions for the last five years of men recommended for the higher degrees, who held no first degree from Harvard, are these: in 1899, about forty-four per cent.; in 1900, about fifty per cent.; in 1901, about fifty-one per cent.; in 1902, about forty-five per cent.; in 1903, about fifty-one per cent.

One hundred and twenty-eight Masters of Arts were recommended in course, a number previously exceeded only in 1900 when there were four more.

The gradual decline in the number of Graduate Students recommended for the degree of A.B. matches the decline in the number of men who, having obtained a first degree elsewhere, desire to obtain it again at Harvard (in the Graduate School). These phenomena aided the Faculty in reaching the decision to abolish, after 1904, the custom of conferring the degree of Bachelor of Arts on Graduate Students.

TABLE XI. — DIVISIONS AND DEPARTMENTS IN WHICH RECOMMENDATIONS FOR THE HIGHER DEGREES WERE MADE IN 1903.

		DEGREES.			
DIVISION.	DEPARTMENT.	A.M.	S.M.	PH.D.	S.D.
I. Semitic Languages and History		..	..	..	..
II. Ancient Languages:					
	Indic Philology	1	..	..	..
	The Classics (Greek, Latin)	13	..	5	..
	Total in Ancient Languages	— 14	— ..	— 5	— ..
III. Modern Languages:					
	English	19	..	4	..
	Germanic Languages and Literatures	4	..	1	..
	French, and other Romance Languages and Literatures	7	..	..	..
	In more than one Department	2	..	..	..
	Total in Modern Languages	— 32	— ..	— 5	— ..
IV. History and Political Science:					
	History and Government	12	..	2	..
	Political Economy	14	..	..	..
	Total in Hist. and Political Sci.	— 26	— ..	— 2	— ..
V. Philosophy		16	..	6	..
	[Education	5]			
VI. The Fine Arts:					
	History and Principles of the Fine Arts	..	..	..	..
	Architecture	2	2	..	..
	Total in the Fine Arts	— 2	— 2	— ..	— ..
VII. Music		..	..	..	..
VIII. Mathematics		6	..	1	..
IX. Engineering		1	..	..	..
X. Physics		6	1	1	..
XI. Chemistry		8	..	4	..

		DEGREES.			
DIVISION.	DEPARTMENT.	A.M.	S.M.	PH.D.	S.D.
XII. Biology:					
	Botany	1	..	..	..
	Zoōlogy	3	..	1	..
	Total in Biology	— 4	— ..	— 1	— ..
XIII. Geology:					
	Geology and Geography	2	2	2	..
	Mineralogy and Petrography	..	..	..	..
	Mining and Metallurgy	2	2	..	..
	Total in Geology	— 4	— 4	— 2	— ..
XIV. Anthropology		..	..	1	1
In more than one Division		4	..	..	..
Professional Students:					
	Divinity School	4	..	..	..
	Law School	..	..	..	..
	Medical School	1	..	..	..
	Total	128	7	28	1

In the next table (XI) the Departments or fields of study are indicated in which lay the chief work for the Masters' and Doctors' degrees.

Six of the fourteen Divisions were represented by ten or more candidates. These were: Modern Languages, with thirty-seven (including five Doctors); History and Political Science, with twenty-eight (including two Doctors); Philosophy, with twenty-two (including six Doctors); Ancient Languages, with nineteen (including five Doctors); Chemistry, with twelve (including four Doctors); and Geology, with ten (including two Doctors).

The degree of Doctor was conferred on the twenty-nine men named below, of whom one was made a Doctor of Science and the others Doctors of Philosophy. With each name is indicated the special field in which the degree was taken, the candidate's academic history, the subject of his thesis, and his present occupation.

The Doctors of Philosophy were: —

Philology.

Andrew Runni Anderson.
Classical Philology. — A.B. (*Univ. of Wisconsin*) 1900. — Res. Gr. Stud., 1901–03.
Thesis: "De Plauti Diphthongi ei Usu Quaestiones."
Now studying Classical Philology at Berlin, as Harris Fellow.

Floyd George Ballentine.
Classical Philology. — A.B. (*Bucknell Univ., Pa.*) 1899, A.B. (*Harvard Univ.*) 1900, A.M. (*ibid.*) 1901. — Res. Gr. Stud., 1900–03.
Thesis: "De Nympharum Cultu Quaestiones Selectae."
Instructor in Latin, Bucknell University.

Carleton Fairchild Brown.
English Philology. — A.B. (*Carleton Coll., Minn.*) 1888, Gr., *Andover Theol. Seminary*, 1893, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900–03.
Thesis: "A Study of the English Grammar Schools before the Reformation."
Instructor in English in this University.

Earnest Cary.
Classical Philology. — A.B. (*Gates Coll., Neb.*) 1898, A.B. *magna cum laude* (*Harvard Univ.*) 1900, A.M. (*ibid.*) 1901. — Res. Gr. Stud., 1900–03.
Thesis: "De Aristophanis Avium apud Suidam Reliquiis."
Now studying Classical Philology at Berlin, as Parker Fellow.

Walter Morris Hart.
English Philology. — A.B. (*Haverford Coll., Pa.*) 1892, A.M. (*ibid.*) 1893, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900–03.
Thesis: "Ballad and Epic: A Study in the Development of the Narrative Art."
Instructor in English, University of California.

William Witherle Lawrence.
English Philology. — A.B. (*Bowdoin Coll., Me.*) 1898, A.M. (*Harvard Univ.*) 1900. — Res. Gr. Stud., 1899–1903.
Thesis: "Repetition in Anglo-Saxon Poetry, and its Relation to the Critical Reconstruction of Béowulf."
Associate Professor of English Literature, University of Kansas.

Edwin Moore Rankin.
Classical Philology. — A.B. (*Vanderbilt Univ., Tenn.*) 1896, A.M. (*ibid.*) 1897, A.M. (*Harvard Univ.*) 1898. — Res. Gr. Stud., 1897–98 and 1901–03.
Thesis: "Quas Partes ei qui Μάγειροι vocantur in Vita Cotidiana Graecorum egerint quaeritur."
Instructor in Latin, Princeton University.

John Strong Perry Tatlock.
English Philology. — A.B. *magna cum laude* 1896, A.M. 1897. — Res. Gr. Stud., 1896–97 and 1901–03.
Thesis: "Essays at the Chronology of Chaucer's Poems."
Instructor in English, University of Michigan.

Oliver Samuel Tonks.
Classical Archaeology. — A.B. *cum laude* 1898, A.M. 1899. — Res. Gr. Stud., 1898–1901; Non-Res. Stud., 1901–02.
Thesis: "Brygos."
Instructor in Greek, University of Vermont.

Robert Maximilian Ottomar Wernaer.
Germanic Philology. — LL.B. (*Albany Law School, N. Y.*) 1887, A.B. (*Harvard Univ.*) 1899, A.M. (*ibid.*) 1900. — Res. Gr. Stud., 1898–1903.
Thesis: "The Importance of the Symbol in the Aesthetic Consciousness of Wackenroder, Tieck, Friedrich Schlegel, and Novalis: A Study in the History of Aesthetic Thought."
Continuing his studies in Germany.

Philosophy.

Roswell Parker Angier.
Psychology. — A.B. *magna cum laude* 1897, A.M. 1901. — Res. Gr. Stud., 1898–99 and 1900–03.
Thesis: "The Aesthetics of Unequal Division."
Continuing his studies in Berlin.

Charles Theodore Burnett.
Psychology. — A.B. (*Amherst Coll.*) 1895, A.M. (*Harvard Univ.*) 1900. — Res. Gr. Stud., 1898–1903.
Thesis: "Influences on the Judgment of Number."
Now continuing his studies at this University.

George Rowland Dodson.
Ethics and History of Philosophy. — A.B. (*Univ. of the State of Missouri*) 1887, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–03.
Thesis: "The Idea of the Good in Plato."
In the Unitarian ministry, with a pastorate at St. Louis, Mo.

Knight Dunlap.
Psychology. — PH.B. (*Univ. of California*) 1899, LITT.M. (*ibid.*) 1900, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900–02.
Thesis: "Tactual Time: An Experimental Investigation."
Assistant in the Psychological Laboratory of the University of California.

David Camp Rogers.
Psychology. — A.B. (*Princeton Univ., N.J.*) 1899, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–03.
Thesis: "Coördinations in Space Perceptions."
Assistant in Philosophy at this University.

Marlow Alexander Shaw.
Psychology. — A.B. (*Univ. of Toronto*) 1896. — Res. Gr. Stud., 1901–03.
Thesis: "Illusions of a Kinaesthetic Character."
At present in Toronto.

History.

George Hubbard Blakeslee.
American History. — A.B. (*Wesleyan Univ., Conn.*) 1893, A.M. (*ibid.*) 1897, A.M. (*Harvard Univ.*) 1900. — Res. Gr. Stud., 1898–1901; Non-Res. Stud., 1901–02.
Thesis: "The History of the Antimasonic Party."
Instructor in History, Clark University.

Augustus Hunt Shearer.
American History. — A.B. (*Rutgers Coll., N.J.*) 1899, A.B. (*Harvard Univ.*) 1900, A.M. (*ibid.*) 1901. — Res. Gr. Stud., 1899–1903.
Thesis: "The History of Political Parties in Pennsylvania, 1776–1790."
At present in Boulder, Colo.

Mathematics.

David Raymond Curtiss.
Analysis. — A.B. (*Univ. of California*) 1899, A.M. (*ibid.*) 1901. — Res. Gr. Stud., 1901–03.
Thesis: "Binary Families in a triply Connected Region, with especial Reference to Hypergeometric Families."
Now studying Mathematics at Paris, as Parker Fellow.

Physics.

Thomas Calvin McKay.
Electricity. — A.B. (*Dalhousie Univ., N.S.*) 1893, A.M. (*ibid.*) 1898, A.M. (*Harvard Univ.*) 1899. — Res. Gr. Stud., 1898–1903.
Thesis: "On the Relation of the Hall Effect to the Current Density in Gold."
Assistant in Physics at this University.

Chemistry.

Frederic Bonnet, Jr.
Physical Chemistry. — S.B. (*Washington Univ., Mo.*) 1899, S.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1899–1903.
Thesis: I. "The Changing Hydrolytic Equilibrium of Chromic Sulphate." II. "The Compressibility of Metals."
Instructor in Chemistry, State University of Iowa.

Kenneth Lamartine Mark.
Physical Chemistry. — A.B. 1899, A.M. 1900. — Res. Gr. Stud., 1899–1903.
Thesis: "The Expansion of Gases by Heat under Constant Pressure."
Instructor in Chemistry, Simmons College.

Horace Chamberlain Porter.
Organic Chemistry. — A.B. (*Univ. of Illinois*) 1897, S.B. (*ibid.*) 1899, S.M. (*ibid.*) 1900, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900–03.
Thesis: "Derivatives of Tetrabromorthobenzoquinone."
Chemist, Solvay Alkali Works, Syracuse, N.Y.

Wilfred Newsome Stull.
Physical Chemistry. — S.B. (*State Univ. of Iowa*) 1898, S.M. (*ibid.*) 1899. — Res. Gr. Stud., 1901–03.
Thesis: I. "The Association of Energy with Matter." II. "The Speed and Nature of the Reaction of Bromine on Oxalic Acid."
Chemist, Mallinckrodt Chemical Works, St. Louis.

Biology.

Amos William Peters.
Zoölogy. — Litt.B. (*Adelbert Coll. of Western Reserve Univ., O.*) 1897, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900–03.
Thesis: "Metabolism and the Reaction of Division in Protozoa."
Instructor in Zoölogy, University of Illinois.

Geology.

Laurence LaForge.
General Geology. — A.B. 1899, A.M. 1900. — Res. Gr. Stud., 1899–1900 and last third of 1900–01.
Thesis: "The Geology of Somerville, Massachusetts."
In the United States Geological Survey.

Thomas Wayland Vaughan.
Palaeontology. — S.B. (*Tulane Univ., La.*) 1889, A.B. (*Harvard Univ.*) 1893, A.M. (*ibid.*) 1894. — Res. Gr. Stud., 1893–95; Non-Res. Stud., 1898–99.
Thesis: "The Eocene and Lower Oligocene Coral Faunas of the United States, with Descriptions of a few doubtfully Cretaceous Species."
In the United States Geological Survey.

Anthropology.

William Curtis Farabee.
Somatology. — A.B. (*Waynesburg Coll., Pa.*) 1894, A.M. (*ibid.*) 1895, A.M. (*Harvard Univ.*) 1900. — Res. Gr. Stud., 1899–1902.
Thesis: "Hereditary and Sexual Influences in Meristic Variation: A Study of Digital Malformations in Man."
Instructor in Anthropology at this University.

The Doctor of Science was: —

Anthropology.

George Byron Gordon.
American Archaeology and General Ethnology. — S.B. *cum laude* 1902. — Res. Gr. Stud., 1902–03.
Thesis: "The Serpent Motive in the Ancient Art of Mexico and Central America."
Assistant Curator of the Department of Ethnology, and Curator of the Division of American Archaeology, Free Museum of Science and Art, University of Pennsylvania.

Of these twenty-nine Doctors, twenty-one are known to be now engaged each in the actual pursuit of his profession. Fifteen are teachers in colleges or universities, one being a professor, eleven instructors, and three assistants. Four are in the service of this University, two as instructors and two as assistants. None are connected with secondary schools. Two are in the United States Geological Survey, two are industrial chemists, one is a museum assistant, and one is in the ministry. Six of the remaining Doctors are continuing their studies, one in Cambridge, and five in Europe, of whom three hold travelling fellowships.

As the degree of Doctor of Philosophy is based on the degree of Bachelor of Arts or its equivalent, or on the degree of Master of Arts, all the Doctors of Philosophy — save two — held degrees in Arts. All but four held Harvard degrees, and of these four all — save one — held degrees in Arts. Twenty-three were Harvard

Masters of Arts; of these, eleven were also Harvard Bachelors of Arts, while ten of them were Bachelors of Arts elsewhere only; the two remaining were Bachelors of Philosophy and of Letters respectively. One was a Harvard Master of Science and Bachelor of Science elsewhere. Of the remaining four of the twenty-eight, three were Bachelors of Arts elsewhere, and one was Bachelor and Master of Science elsewhere.

In the case of fourteen candidates, six or more years had elapsed since the candidate had received his first degree in Arts or Science. Of the remaining fourteen, three had been out of College for five years, seven for four years, and four for three years.

Though the candidate for the degree of Doctor of Science received his degree only one year after the date of his Bachelor's degree, he had pursued approved studies for more than four years previously.

The period of resident study of the Doctors of Philosophy varied between one year (one candidate) and five years (two candidates). Seven candidates were two years in residence; eleven three years, and seven again four years. The Division in which the degree was conferred after one year of resident study was Geology (one candidate, who had, however, done non-resident work in the field for more than a year). The Divisions or Departments in which the degree was conferred after two years of resident study were Philosophy, with four candidates, and Classics, Mathematics, and Chemistry, each with one candidate. The Departments where three years were found necessary by some of their candidates were Classics, with three men; English, with three; and History, Chemistry, Biology, Geology, and Anthropology, each with one man. The candidates who devoted four years to resident study were one each in the Departments of Classics, English, Germanic Philology, History, and Philosophy, and two in Chemistry. The two men who were registered for five years of resident study were students of Philosophy and Physics, respectively.

The average period of resident study for these candidates, as for those in 1901–02, is a little above three years. If we add to this the time devoted to graduate study by many of these candidates at other universities, the average period of time given to preparation for the Doctor's degree will be more than three years of graduate study.

The period of professional study for the degree of Doctor of Philosophy is fixing itself, at this University, at three years, with a tendency to exceed this length of time.

Table XII. — Age of Graduate Students recommended for the Degrees of Master of Arts, Master of Science, and Doctor of Philosophy: 1903.*

	19	20	21	22	23	24	25	26	27	28–34	35–39	40 or over	Total.
A.M.'s	1	1	2	8	16	5	17	5	4	27	3	5	94
S.M.'s	. .	. .	. .	. .	1	1	1	1	. .	1	. .	. . .	5
Ph.D.'s	. .	. .	. .	. .	. .	2	4	3	3	11	5	. . .	28

Table XIII. — Age of Graduate Students recommended for the Degree of Doctor of Philosophy: 1897–1903.

	22	23	24	25	26	27	28 or over	Average age of men 27 or under.	Percentage of men 28 or older.
1897	. .	. .	3	1	4	2	15	25.5	60
1898	1	. .	1	4	2	2	15	25.2	60
1899	1	4	2	3	2	1	8	24.3	38
1900	. .	2	3	4	2	6	18	25.4	51
1901	. .	. .	1	3	5	3	17	25.8	59
1902	. .	1	2	3	4	2	16	25.3	57
1903	. .	. .	2	4	3	3	16	25.6	58

Table XII gives the age of Graduate Students recommended for the higher degrees at Commencement, 1903, and Table XIII that of Doctors of Philosophy for the seven years since 1897. The average age for the normal Master of Arts — that is, a student who has continued his studies immediately after receiving his Bachelor's degree or after an interval of not more than a year — is about twenty-four. The large group of older persons is made up of college-bred men who have come to the University for a year or more of study, after having been for several years engaged in active pursuits.

The "normal" Doctors are of course older, but not much older, as a glance at the statement of the average age of the Doctors from 1897 to 1903, given in Table XIII, will show. This is a little above twenty-five. The very large proportion of men who are not "normal" Doctors — men of twenty-eight or over — is surprising, averaging for seven years more than fifty-five per cent. These again belong to the same class as the older Masters of Arts. For various reasons, often financial, these men have had to postpone the attainment of their degree to an age when men in other professions have already become well established. If the University could forestall such postponement it would do such men a great service.

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* Men recommended for "as of" degrees are not included.

FELLOWSHIPS AND SCHOLARSHIPS.

The appointments to fellowships and scholarships for 1902–03 were made toward the close of the preceding academic year, chiefly in June, 1902; similarly the appointments for the subsequent year, 1903–04, were for the most part made within the academic year covered by the present report. The recommendations to fellowships and scholarships are made by the Faculty of Arts and Sciences on the nomination of its Committee on Fellowships and other Aids for Graduate Students,* and thus are a part of the business of that Faculty; but as the students appointed are members of the Graduate School, information on this subject is always given in the reports of the Dean of this School.

Twenty-nine fellowships and fifty scholarships were held by students in the Graduate School in 1902–03. With these fellowships are included the John Harvard Fellowships, without stipend, — five in 1902–03. Fifteen of the fellowships, including three of the John Harvard Fellowships, were held by Non-Resident Students who, with two exceptions, studied abroad, — in England (three), in Germany (five), and in Holland, France, Italy, Greece, and India (one in each country). Thirteen of the fellowships and all the scholarships were held by Resident Students.

For 1903–04 appointments have been made to thirty-three fellowships and to sixty scholarships.

The names of the holders of fellowships for the two academic years 1902–03 and 1903–04 follow. The fellowships are arranged in the order of their foundation.

1902-03.	**1903-04.**
Harris Fellowship (1868).	
WILLIAM JAY HALE. A.B. (*Miami Univ., O.*) 1897, A.M. (*ibid.*) 1897, A.B. (*Harvard Univ.*) 1898, A.M. (*ibid.*) 1899, PH.D. (Chemistry) 1902.— Res. Gr. Stud., 1898–1902; Non-Res. Stud., 1902–03. — University Scholar, 1898–99; Thayer Scholar, 1899–1900. — Assistant in Chemistry, 1900–01; Austin Teaching Fellow in Chemistry, 1901–02. — Student of Chemistry, at Berlin. Research Assistant to Professor Stieglitz, University of Chicago.	ANDREW RUNNI ANDERSON. A.B. (*Univ. of Wisconsin*) 1900, PH.D. (Classical Philology) 1903. — Res. Gr. Stud., 1901–03 — Thayer Scholar, 1901–02; Shattuck Scholar, 1902–03. Student of Classical Philology at Berlin.

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* This Committee (in 1902–03) consisted of Professor J. H. Wright, *Chairman*, Professors Palmer, Davis, Mark, Gross, Kittredge, Richards, Sabine, and Andrew.

Rogers Fellowships (1869).

1902-03.	1903-04.
Harold de Wolf Fuller. A.B. (*Adelbert Coll. of Western Reserve Univ., O.*) 1897, A.B. (*Harvard Univ.*) 1898, A.M. (*ibid.*) 1900, PH.D. (English Philology) 1902. — Res. Gr. Stud., 1897–Feb. 1899, and Feb. 1900–02; Non-Res. Stud., 1902–03. — University Scholar, 1900–01; Christopher M. Weld Scholar, 1901–02. — Student of English Philology and Comparative Literature, at Leyden. Continuing his studies at Leyden, as Rogers Fellow.	**Harold de Wolf Fuller.** *Reappointed.*
Roland Greene Usher. A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1901–02; Non-Res. Stud., 1902–03. — Ricardo Prize Scholar, 1901–02. — Student of History, at Oxford and Cambridge, England. Continuing his studies in England, as Rogers Fellow.	**Roland Greene Usher.** *Reappointed.*

Parker Fellowships (1873).

John William Bradshaw. A.B. (*Univ. of Michigan*) 1900, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1900–02. — Non-Res. Stud., 1902–03. — Leverett Saltonstall Scholar, 1901–02. — Student of Mathematics, at Strasburg. Continuing his studies at Strasburg, as John Thornton Kirkland Fellow.	**William Frederick Boos.** A.B. 1894, PH.D. (*Univ. of Heidelberg, Germany*) 1896, M.D. (*Harvard Univ.*) 1901. Student of Chemistry, at Strasburg.
Donald Cameron. A.B. (*Univ. of Texas*) 1895, A.M. (*ibid.*) 1896, A.M. (*Harvard Univ.*) 1900, PH.D. (Classical Philology) 1902. — Res. Gr. Stud., 1899–1902; Non-Res. Stud., 1902–03. — Townsend Scholar, 1900–01; Edward Austin Fellow, 1901–02. — Student of Classical Philology, at Berlin. Instructor in Greek, at the University of Texas.	**Earnest Cary.** (See Edward Austin Fellowships, 1902–03.)
Charles William Prentiss. *Reappointed.* A.B. (*Middlebury Coll., Vt.*) 1896, A.M. (*ibid.*) 1897, A.M. (*Harvard Univ.*) 1898, PH.D. (Biology) 1900. — Res. Gr. Stud., 1897–1900; Non-Res. Stud., 1901–03. — Townsend Scholar, 1897–98. — Assistant in Zoölogy, 1898–1900; Instructor in Anatomy, Harvard Veterinary School, 1900–01. — Student of Zoölogy, at Strasburg. Instructor in Biology, Adelbert College of Western Reserve University.	**David Raymond Curtiss.** A.B. (*Univ. of California*) 1899, A.M. (*ibid.*) 1901, PH.D. (Mathematics) 1903. — Res. Gr. Stud., 1901–03. — Shattuck Scholar, 1901–02; Christopher M. Weld Scholar, 1902–03. Student of Mathematics, at Paris.

John Thornton Kirkland Fellowship (1873).

John Taggart Clark. A.B. 1898, A.M. 1899, PH.D. (Romance Philology) 1901. — Res. Gr. Stud., 1898–1901; Non-Res. Stud., 1901–03. — University Scholar, 1898–99; Townsend Scholar, 1899–1900; Shattuck Scholar, 1900–01; Rogers Fellow, 1901–02. — Student of Romance Languages, at Paris. Continuing his studies in Paris.	**John William Bradshaw.** (See Parker Fellowships, 1902–03.)

James Walker Fellowship (1881).

William Ernest Hocking. A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1901–02; Non-Res. Stud., 1902–03. — Henry Bromfield Rogers Memorial Fellow, 1901–02. — Student of Philosophy, at Göttingen. Now continuing his studies at this University, as Townsend Scholar.	**Ray Madding McConnell.** A.B. (*Southern Univ., Ala.*) 1899, S.T.B. (*Vanderbilt Univ., Tenn.*) 1901, A.M. (*Harvard Univ.*) 1902.—Gr. Div. Stud., 1901–03. Student of Philosophy, at Berlin.

1902-03. **1903-04.**

John Tyndall Scholarship (1885).

Edwin Plimpton Adams.
Reappointed.
S.B. (*Beloit Coll., Wis.*) 1899, S.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1899–1901; Non-Res. Stud., 1901–02. — Student of Physics, at Cambridge, England.
Now continuing his studies at Cambridge, England.

John L Hogg.
(See Whiting Fellowships, 1902–03.)

Robert Treat Paine Fellowship (1887).

Francis Reeve Cope, Jr.
A.B. (*Haverford Coll., Pa.*) 1900, A.B. (*Harvard Univ.*) 1901, A.M. (*ibid.*) 1902. — Res. Gr. Stud., 1901–02; Non-Res. Stud., 1902–03. — Student of Social Science, at New York.
Continuing his studies in Europe, as John Harvard Fellow.

Edwin DeTurck Bechtel.
A.B. 1903.
Student of Social Science, at this University.

Frank Harold Lemont.
A.B. 1903.
Student of Social Science, at this University.

Henry Lee Memorial Fellowship (1889).

Leon Carroll Marshall.
A.B. (*Ohio Wesleyan Univ.*) 1900, A.B. (*Harvard Univ.*) 1901, A.M. (*ibid.*) 1902. — Res. Gr. Stud., 1901–03. — Assistant in History, 1901–02. — Student of Political Economy, at this University.
Assistant Professor of Economics, Ohio Wesleyan University.

George Randall Lewis.
A.B. 1902. — Res. Gr. Stud., 1902–03. — University Scholar, 1902–03.
Student of Political Economy, at this University.

Ozias Goodwin Memorial Fellowship (1889).

Emerson David Fite.
A.B. (*Yale Univ.*) 1897. — Res. Gr. Stud., 1901–03. — Townsend Scholar, 1901–02. — Student of History, at this University.
Continuing his studies at this University, as Edward Austin Fellow.

Walter Harold Claflin
A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902–03. — Thayer Scholar, 1902–03.
Student of History, at this University.

Henry Bromfield Rogers Memorial Fellowship (1889).

Rufus Edward Miles.
A.B. (*Amherst Coll.*) 1899, A.M. (*ibid.*) 1903. — Res. Gr. Stud., 1899–1900 and 1902–03. — Student of Philosophy, at this University.
Engaged in sociological studies in Boston.

Carleton Ames Wheeler.
A.B. 1899.
Student of Philosophy, at this University.

Hemenway Fellowship (1891).

George Byron Gordon.
S.B. 1902, S.D. 1903. — Res. Gr. Stud., 1902–03. — Student of Anthropology, at this University.
Assistant Curator of the Department of Ethnology, and Curator of the Division of American Archaeology, Free Museum of Science and Art, University of Pennsylvania.

(Not yet filled for 1903–04.)

John Harvard Fellowships (1895).

Apthorp Gould Fuller.
A.B. 1900, A.M. 1902. — Res. Gr. Stud., 1900–02. — Student of Philosophy, at Oxford.
Continuing his studies at Oxford.

James Mackintosh Bell.
A.M. (*Queen's Univ., Ont.*) 1899. — Res. Gr. Stud., 1902–03.
Student of Geology, at this University.

1902-03.

Harry Nelson Gay.
Reappointed a second time.
A.B. (*Amherst Coll.*) 1891, A.M. (*Harvard Univ.*) 1896.—Res. Gr. Stud., 1894–95 and 1896–97; Non-Res. Stud., 1895–96 and 1900–03.—Student of History, at Rome.
Continuing his studies at Rome, as Curator of Italian History of the Harvard University Library.

William Henry Paine Hatch.
A.B. 1898, A.M. 1899, S.T.B. (*Episcopal Theol. School, Cambridge*) 1902.—Res. Gr. Stud., 1898–1903.—Student of Classical Philology, at this University.
At his home, South Hartford, N.Y.

Mortimer Phillips Mason.
A.B. 1899, A.M. 1900.—Res. Gr. Stud., 1902–03.—Student of Philosophy, at this University.
Continuing his studies at this University.

Francis Samuel Philbrick.
S.B. (*Univ. of Nebraska*) 1897, A.M. (*ibid.*) 1899, PH.D. (History) 1902.—Res. Gr. Stud., 1899–1902; Non-Res. Stud., 1902–03.—University Scholar, 1899–1900; Morgan Fellow, 1900–01; Edward Austin Fellow, 1901–02.—Student of History, in Europe.
Engaged in research work in England.

1903-04.

Howard Lane Blackwell.
A.B. 1899, A.M. 1900.—Res. Gr. Stud., 1899–1900 and 1901–03.
Student of Physics, at this University.

Francis Reeve Cope, Jr.
(See Robert Treat Paine Fellowship, 1902–03.)

Louis William Flaccus.
A.B. (*Washington and Jefferson Coll., Pa.*) 1900, A.M. (*Harvard Univ.*) 1902.—Res. Gr. Stud., 1901–03.
Student of Philosophy, at this University.

Conyers Read.
A.B. 1903.
Student of History, at Oxford.

William Henry Roever.
S.B. (*Washington Univ., Mo.*) 1897.—Res. Gr. Stud., 1897–98 and 1901–02.—Shattuck Scholar, 1897–98.—Instructor in Mathematics, 1902–03.
Student of Mathematics, at this University.

George Wallace Umphrey.
A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1901.—Res. Gr. Stud., 1900–01.
Student of Romance Languages at Paris, and Fellow of the Ministry of Public Instruction of the French Republic.

Whiting Fellowships (1895).

Harvey Nathaniel Davis.
A.B. (*Brown Univ., R.I.*) 1901, A.M. (*ibid.*) 1902, A.M. (*Harvard Univ.*) 1903.—Res. Gr. Stud., 1902–03.—Student of Physics, at this University.
Continuing his studies at this University, as Whiting Fellow.

John L Hogg.
A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1902.—Res. Gr. Stud., 1901–03.—University Scholar, 1901–02.—Student of Physics, at this University.
Continuing his studies at this University, as John Tyndall Scholar.

Joseph Cleaveland Pearson.
Reappointed.
A.B. (*Bowdoin Coll., Me.*) 1900, A.M. (*Harvard Univ.*) 1903.—Res. Gr. Stud., 1901–02.—Student of Physics, at this University.
Instructor in Physics, Bowdoin College.

John Mead Adams.
A.B. 1903.
Student of Physics, at this University.

Harvey Nathaniel Davis.
Reappointed.

Alpheus Wilson Smith.
A.B. (*West Virginia Univ.*) 1900, A.M. (*Harvard Univ.*) 1903.—Res. Gr. Stud., 1902–03.
Student of Physics, at this University.

South End House Fellowship (1900).

Albert Benedict Wolfe.
A.B. 1902, A.M. 1903.—Res. Gr. Stud., 1902–03.—Student of Sociology, at this University.
Continuing his studies at this University, as South End House Fellow.

Albert Benedict Wolfe.
Reappointed.

Charles Eliot Norton Fellowship (1900).

1902-03.	1903-04.
Harold Ripley Hastings. A.B. (*Dartmouth Coll., N.H.*) 1900, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-02; Non-Res. Stud., 1902-03. — Student of Classical Archaeology, in Athens. Continuing his studies at Athens, as holder of a fellowship of the Archaeological Institute of America.	**Fritz Sage Darrow.** A.B. 1903. Student of Classical Archaeology in Athens.

Edward Austin Fellowships (1900).

Earnest Cary. A.B. (*Gates Coll., Neb.*) 1898, A.B. (*Harvard Univ.*) 1900, A.M. (*ibid.*) 1901, PH.D. (Classical Philology) 1903. — Res. Gr. Stud., 1900-03. — Thayer Scholar, 1900-01; Shattuck Scholar, 1901-02. — Student of Classical Philology, at this University. Continuing his studies at Berlin, as Parker Fellow.	**Frederic Walton Carpenter.** S.B. (*New York Univ.*) 1899, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1900-03. — Virginia Barret Gibbs Scholar, 1900-01. — Assistant in Zoölogy, 1901-03. Student of Zoölogy, at this University.
Leon Jacob Cole. A.B. (*Univ. of Michigan*) 1901. — Res. Gr. Stud., 1902-03. — Student of Zoölogy, at this University. Austin Teaching Fellow in Zoölogy and second-year Graduate Student in this University.	**Emerson David Fite.** (See Ozias Goodwin Memorial Fellowship, 1902-03.)
Robert Bell Michell. A.B. (*Univ. of Toronto, Ont.*) 1900, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900-03. — Townsend Scholar, 1901-02. — Student of Romance Philology, at this University. Instructor in Romance Languages, at this University.	**Chester Noyes Greenough.** A.B. 1898, A.M. 1899 — Res. Gr. Stud., 1898-99 and 1902-03. — Shattuck Scholar, 1902-03. — Instructor in English, 1901-02. Student of English, at this University.
Wilfred Newsome Stull. S.B. (*State Univ. of Iowa*) 1898, S.M. (*ibid.*) 1899, PH.D. (Chemistry) 1903. — Res. Gr. Stud., 1901-03. — George and Martha Derby Scholar, 1901-02. — Student of Chemistry, at this University. Chemist, Mallinckrodt Chemical Works, St. Louis.	**Arthur Becket Lamb.** A.B. (*Tufts Coll.*) 1900, A.M. (*ibid.*) 1900, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902-03. Student of Chemistry, at this University.

Travelling Fellowship in Indic Philology (1902).

David Brainerd Spooner. A.B. (*Leland Stanford Jr. Univ., Cal.*) 1899. — Non-Resident Stud., 1902-03. — Student of Indic Philology, at Benares. Continuing his studies at Benares, as Travelling Fellow in Indic Philology.	**David Brainerd Spooner.** *Reappointed.*

Nelson Robinson Jr. Fellowship (1902).

	Leroy Pearl Burnham. S.B. 1902, S.M. 1903. — Res. Gr. Stud., 1902-03. — Austin Scholar in Architecture, 1902-03. Student of Architecture, in Europe.

Fellowship of the Cercle Français de l'Université Harvard (1903).

	Robert Charles Dominique Marie Pierre Dupouey. Agrégé-des-lettres (*Univ. of Paris, France*) 1903. Student of English, at this University.

As in former years, the holders of fellowships consist of two distinct groups: first, men that have ordinarily received the Doctor's degree and are continuing studies and researches of a highly specialized nature for a year or two before taking up their professional work either as teachers, or as men of science, or in literature and history; and, secondly, men younger from the point of view of academic advancement, whom the stipend of the fellowship enables to carry on studies normally for a higher degree either at this or at some other university. Of the twenty-nine fellows in 1902–03, six were already Doctors of Philosophy when they became fellows, and three others received this degree at this University, and one the degree of Doctor of Science, at the close of the year. Of the remaining nineteen, three only have no Harvard degree (two being Bachelors of Arts of Yale, and one a Bachelor of Arts of Michigan); the remaining sixteen were already Harvard Masters (thirteen) or became Masters at the close of the year (three).

Of the twenty-nine holders of fellowships in 1902–03 six are now teaching in colleges or universities (including two here), one being an assistant professor. None are connected with secondary schools. One is a research assistant, one is a museum assistant. One is in business. Of the remaining twenty fellows, nineteen are continuing their studies, twelve of them abroad, six being holders of travelling fellowships from this University, and one of a fellowship of the Archaeological Institute of America; six are resident students at this University, of whom four hold fellowships and one a scholarship. Ten of the fellowship holders for 1902–03 hold similar appointments for the present year (1903–04). The increase in the proportion of fellows who continue their studies, instead of entering directly upon teaching or other professional work, continues. This tendency, to which I called attention in my last year's report, is the natural result of the recent policy of the Faculty in bestowing these appointments to a considerable extent upon somewhat younger students than formerly.

FELLOWSHIPS AND SCHOLARSHIPS: APPLICATIONS AND APPOINTMENTS.

The following table (XIV) gives the usual statistics relative to the applications and appointments for the three successive years 1901–02, 1902–03, and 1903–04:—

TABLE XIV.—FELLOWSHIPS AND SCHOLARSHIPS (1901–04).

1. *Applications and Appointments.*

	1901–02.		1902–03.		1903–04.	
Spring applicants for reappointment or promotion	42		46		42	
Spring applicants for a first appointment	225		210		202	
Later applicants	56	323	57	313	60	304
Appointed to fellowships	21		21		23	
Appointed to scholarships	43		50		55	
Appointed instructors, teaching fellows, or assistants	15	79	28	99	23	101
Deduct for repetitions		0		4		3
		79		95		98
Entered or continued in the Graduate School without receiving any of the above-named appointments	68		55		62	
Entered undergraduate classes of Harvard College	3		8		0	
Entered other Departments of the University	5	76	5	68	3	65
Applicants who were at the University in the year following their applications		155		163		163
Applicants not at the University in that year		168		150		141
		323		313		304

This table suggests various comments. There has been for four years a slow falling-off in the number of applicants (from 354 in 1900 to 304 in 1903), though the number of appointments has increased. About thirty-one per cent. of the disappointed applicants in 1902 entered the University for the academic year 1902–03; of those disappointed in 1903 the proportion is thirty-two per cent. Of the whole number of applicants in 1903 about one in three was successful. As usual the applicants in philology, philosophy, history, and political science outnumbered those in the mathematical, physical, and natural sciences by more than two to one. Of the applicants in philology about one in five was successful; in philosophy, history,

2. *Classification of Applicants and Appointees.*

	1901–02.		1902–03.		1903–04.	
	Applicants.	Appointees.	Applicants.	Appointees.	Applicants.	Appointees.
Students of Philology	112	19	115	22	118	24
Students of Philosophy, History, or Political Science	97	20	101	21	100	23
Students of Mathematics, Physics, or Chemistry	67	16	55	17	52	19
Students of Natural History	44	9	34	8	30	9
Students of other branches, or unclassified	3	0	8	3	4	3
	323	64	313	71	304	78
Students in the Graduate School	109	33	80	41	93	41
Students in Harvard College	28	5	35	6	42	16
Students in other Departments of the University	4	0	5	1	7	2
Former students in some Department of the University	16	4	36	5	33	9
Persons never previously members of the University	166	22	157	18	129	10
	323	64	313	71	304	78
Harvard Bachelors of Arts or Science, not previously graduated elsewhere	29	10	23	9	32	16
Harvard Bachelors of Arts or Science, previously graduated elsewhere	17	6	23	9	11	2
Graduates of other institutions, not Harvard Bachelors of Arts or Science	235	46	210	46	204	44
Undergraduates of Harvard College or Lawrence Scientific School, not already graduated elsewhere	19	2	26	7	36	14
Undergraduates of other institutions and other non-graduates	23	0	31	0	21	2
	323	64	313	71	304	78

and political science, more than one in five; in mathematics, physics, **chemistry, and** in geology and biology, more than one in three were **successful. Of applicants who had** been in the School, nearly one-**half received appointments**; of those who had never been in the **University, about** one in thirteen was successful. Of applicants **who were students** in Harvard College or were or had been stu**dents of some other Department** of the University, about one in three **was successful. Of Harvard** Bachelors more than one in three was **successful, while of the very large** number that had no Harvard first degree nearly one in four received an appointment. These proportions, which show very little variation from year to year, prove that it is an advantage to the applicant to hold the Harvard Bachelor's degree or to have been a student in the University. At the same time the large number of men not of these classes (in 1903 forty-four appointments out of two hundred and twenty-five applicants of this class) shows that the stranger is not discriminated against.

The committee in charge does not apportion the appointments among the several Departments in accordance with the number of applicants or the number of students, but aims to select — with the advice of the Departmental Committees — the most meritorious candidates individually. Hence there may be a slight fluctuation from year to year in the proportion of appointments to both the number of applicants and the number of students in the several Departments.

INSTRUCTORSHIPS, TEACHING FELLOWSHIPS, AND ASSISTANTSHIPS.

Several members of the Graduate School, beside carrying on their studies, serve the University as salaried teachers or assistants under the Faculty of Arts and Sciences, by regular appointment of the Corporation. The amount of their work as students varies from a half-course, which is technically one-eighth of full work, to four courses or more. There were in 1902–03 sixty-four such persons: eleven of them were Instructors, nine were Austin Teaching Fellows, and forty-four were Assistants. In the current year there are (in November, 1903) sixty-four such persons, — five Instructors, fourteen Austin Teaching Fellows, and forty-five Assistants. Besides these fourteen Austin Teaching Fellows there are six others who are not registered members of the Graduate School.

Of the three hundred and twenty-five members of the School in 1902–03, one hundred and thirty-eight — or nearly forty-three per cent. (as against forty per cent. in 1901–02, and thirty-three per cent. in 1900–01) — received stipends either as teachers, assistants, fellows, or scholars. Furthermore, other members of the School, as well as some of these, held paid proctorships, parietal or examination.

NEW FELLOWSHIPS AND SCHOLARSHIPS.

Three fellowships and five scholarships for students in the Graduate School were founded in the year 1902–03, interesting special conditions attaching to each. The names and brief descriptions of these foundations follow.

The Fellowship of the Cercle Français de l'Université Harvard.—Mr. James H. Hyde of New York has offered for the years 1903–04 and 1904–05 a resident fellowship in the Graduate School, with an annual stipend of six hundred dollars, the appointment to which is to be made by the President and Fellows of Harvard College on the recommendation of the Minister of Public Instruction of the French Republic. The incumbent is to be a young Frenchman who has shown proficiency in literary studies. He is expected to give, during his incumbency, a certain amount of assistance in the French instruction offered by the Department of French and other Romance Languages; and he is to be admitted to any courses of instruction in Harvard University which he may be qualified to pursue.

The Fellowship of the Ministry of Public Instruction of the French Republic.—The French Ministry of Public Instruction has established a fellowship at the University of Paris for the years 1903–04 and 1904–05, with a stipend of six hundred dollars. The appointment to this fellowship is made by the French Minister of Public Instruction on the recommendation of the President of Harvard University. The incumbent is to be a student or graduate of Harvard University, chosen for his proficiency in literary studies. He is to give a certain amount of instruction in the English language and literature under the direction of the Minister of Public Instruction, and is to be admitted to such courses of study at the University of Paris as he may be qualified to pursue.

The George W. Dillaway Fellowship.—This was established in 1903 under the will of George W. Dillaway, of the Class of 1865, who bequeathed five thousand dollars to the President and Fellows, "the income to be used to support a Fellowship of one year's duration in favor of the graduate from year to year who passes his examination with highest honor in Modern History. The Fellowship is to be called after my name. I do this in recognition of the benefit I received from a Scholarship when an undergraduate." The stipend of this fellowship is two hundred dollars.

The George H. Emerson Scholarships.—These are four in number, with an income of two hundred and twenty-five dollars each. George H. Emerson's residuary bequest, which is in the hands of the Trustee under his will, became available in 1903, when it was valued at about twenty-five thousand dollars, for the establishment of these scholarships. Mr. Emerson's will, made in 1865, provides that the income shall "be divided into four equal portions to be devoted to the establishment of four scholarships in the Lawrence Scientific School, one in each of the Departments of Zoölogy, Geology, Mineralogy, and Chemistry; the condition of this bequest being that these scholarships shall be open only to needy and meritorious students who are not paid assistants in and are regular graduates of one of the aforesaid Departments and who are desirous of continuing their studies in either of such Departments, such scholarships to be granted at the discretion of the Faculty of the said Lawrence Scientific School, and any surplus income which may accumulate by reason of the vacancy of any of said scholarships to be added to the principal of this bequest."

The George Foster Peabody Scholarship. — This was founded with a principal of six thousand dollars by George Foster Peabody, in connection with the graduation of his nephew, Charles Samuel Peabody, of the Class of 1902. The income, which at present is two hundred and fifty dollars, is "to be used for a scholarship in the Graduate School of Harvard University, the scholar to be nominated by the Chancellor of the University of Georgia from among the recent graduates of that institution."

The Association of American Universities, to the annual meetings of which reference has regularly been made in these reports, met for its fourth annual conference, on December 29–31, 1902, at Columbia University, President Eliot and the writer being the representatives of this University. There were papers on "The Certificate Method of Admission to Colleges and Universities," "The Requirements for Admission to Professional Schools," and "Uniformity of University Statistics." The Association has enlarged its scope, having already departed from its original aim; it was founded (in 1900) "for the purpose of considering matters of common interest relating to graduate studies," such as are pursued in the Graduate Schools of Arts and Sciences (or the philosophical Faculties) of American and foreign universities.

In the report of the Dean of the Faculty (above, p. 92) is given a brief statement of the legislation of the Faculty of Arts and Sciences in the course of the year with regard to the degree of Master of Arts. This action had a two-fold purpose: first, to render access to the degree simpler and more rational — though not necessarily easier — for men who come from other good colleges; and, secondly, to secure a more consistent, a more carefully considered, and a better supervised preparation for the degree on the part of all candidates. Graduates of good colleges and scientific schools are now admitted to candidacy for the degree on substantially the same terms as Harvard Bachelors, and the practice has been discontinued of "rating" candidates in terms of the Harvard Bachelor of Arts, whereby conditions were often imposed in terms of the Harvard entrance requirements. All candidates are now required to devote not less than one year of resident study to advanced work approved by the Administrative Board as affording suitable preparation for the degree and completed with high credit. A year's work is no longer defined in terms of "courses," though candidates who offer such for the degree must pursue at least four of them or their equivalent. Programmes of study for the degree are ordinarily referred to the proper Division Committees on Honors and Higher Degrees for their consideration and approval, but the final responsibility for approval remains with the Administrative Board, which is required to see to it that "the present standard of the degree be maintained." The programmes of study for the degree must each form a consistent plan of advanced work and must be pursued with some definite aim. The Administrative Board has always understood this to mean that they must be marked by unity of subject or field — the studies in these cases being in some one Department or in related Departments; or by unity of theme — in which case the courses may conceivably fall in two or more Departments (as programmes on themes in comparative literature). In a few cases, if more than half of the candidate's work is of a sufficiently advanced nature and is suitably unified in subject or theme, the remainder of it may be taken in a field less closely related to the main field or theme. Discretion is given the Divisions to impose minor conditions — such as a reading knowledge of French and German, or a knowledge of certain elementary subjects — which may in some instances demand more than a single year of work, certainly more than the four courses which have long been regarded as a normal year's work.

The good effect of these regulations is already apparent, not only in the number and quality of the Graduate Students who are candidates for the degree in the present year, but also in the spirit in which their work is done.

The Administrative Board, with the concurrence of the Administrative Board of the College, renewed its ancient recommendation that the degree of Bachelor of Arts be no longer conferred in the Graduate School. The Faculty unanimously adopted this recommendation. After the current academic year (1903–04) graduates of other colleges who desire to become Harvard Bachelors of Arts will be required to be registered in Harvard College as candidates for the degree.

At present a considerable number of the members of the Senior

Class each year, having entirely or nearly completed the tale of courses required for the Bachelor's degree before becoming Seniors, fulfil the technical requirements for the Master's degree in their Senior year; they receive, however, the Bachelor's degree at the close of this year and the Master's degree a year later — being "postponed A.M.'s" — without further residence or study. The programmes of these men for the Master's degree frequently give the Division Committees and the Administrative Board much concern; excellent in themselves as constituents in an undergraduate course of study they commonly lack the elements of unity and coherence and often are necessarily somewhat elementary in character, these being defects that are seldom found in the programmes of the more advanced Graduate Students for whom the Master's degree is the normal degree. The facility with which undergraduates have obtained the Master's degree has furthermore tended to impoverish the Bachelor's degree. It would have been better for these young men, in many instances, to have used their Senior year in winning an enriched and more distinguished Bachelor's degree, devoting their time and strength, for example, in less hurried fashion to the securing of Honors — which they cannot ordinarily do if their "courses" are to be used for the Master's degree — rather than to have sought to obtain a higher degree which is really less appropriate for them. It might be well, therefore, for the Faculty to deny to men registered as undergraduates the privilege of securing the Master's degree on Senior year work, and to require that all candidates for the Master's degree shall not only have fulfilled the requirements of the Bachelor's degree, but shall be registered in a graduate department, either the Graduate School or one of the graduate professional schools. Such legislation would surely tend to improve the Bachelor's degree, and it would also improve the Master's degree.

Besides this new recommendation — that the degree of Master of Arts should not be given for work done by undergraduates — certain recommendations and suggestions made in former reports, in the interest of the Graduate School and of graduate instruction, are respectfully renewed. These are, that the publication of the theses of Doctors of Philosophy and Science should be a requirement at this University; that a Quadrangle or Hall should be provided for resident members of the School; that an Association of the Graduate School should be formed to hold an annual festival, like the Alumni Associations of other Departments of the University; and perhaps that the Board of Overseers might serve the cause of higher instruction at this University by establishing a committee "to visit the

Graduate School," similar to the committees "to visit the Law School," "to visit the Lawrence Scientific School," etc., — unless, to be sure, the Graduate School is still to be regarded as an incorporate part of the College, with its needs sufficiently looked after by the committees appointed for the several Departments of instruction. Such a general committee might in conference with the Administrative Board receive and spread information about the work of the School, and suggest lines of policy as well as improvements that would tend to enlarge the School and widen the range of the influence of Harvard University.

The formal opening meeting of the School for the current year (1903–04) was held on Thursday evening, October 8, in the Faculty Room. The principal address was by Professor A. Lawrence Lowell, on "The Belief that the Interests of All Men Coincide." Short addresses were made by Dr. William Everett and Professor W. W. Goodwin, of the Board of Overseers, and by Mr. Norman F. Hall, President of the Graduates' Club. These were followed by a reception.

JOHN HENRY WRIGHT, *Dean.*

THE DIVINITY SCHOOL.

To the President of the University: —

Sir, — I have the honor to present the following report concerning the Divinity School for the year 1902–03.

Professor E. C. Moore began his service of the School in October, 1902; Assistant Professor Ropes was elected Bussey Professor of New Testament Criticism and Interpretation in April, 1903, and Dexter Lecturer on Biblical Literature in September, 1903; Rev. H. H. Haynes continued as instructor in Semitic Languages; Mr. I. L. Winter and his assistant, Mr. A. S. Hills, were appointed to offer to the School the same system of instruction in Elocution as that already in force in the College and the Law School. The Divinity School is thus equipped with a larger staff (8 Professors, 1 Assistant Professor, 2 Instructors, 1 Assistant, 1 Librarian), and offers a more varied and systematic series of elective courses than in any preceding year (Old Testament, 9 courses; New Testament, 5 courses; Church History, 3½ courses; History of Religions, 1½ courses; Theology, 3 courses; Social Questions, 2 courses; Homiletics and Pastoral Care, 3½ courses; Elocution, 1½ courses). Professor Toy was on leave of absence during the year. Professor E. C. Moore gave the introductory address on "The Growth of the Idea of Authority in the Christian Church." Forty students were registered in the School during the year, though, for the greater part of the year, the number in residence was 37, being precisely the number of the preceding year. Of those in residence for the whole year but three elected less than a full year's work. The work of the year was, therefore, serious and sustained. The distribution of electives in different departments, as herewith presented, justifies by its proportionate choices the large range of liberty given to the students of the School.

Old Testament	22½	elections.
New Testament	19½	"
Church History	17	"
History of Religions	12	"
Theology	19½	"
Social Questions	19	"
Homiletics	26	"
Elocution	5	"

The Divinity School is the only department in the University having its own dormitory. This fact has, however, not always been to the advantage of the School. Divinity students have found themselves segregated from the main movement of university life, and since Divinity Hall is an inexpensive lodging-place, rooms not occupied by Divinity students have, as a rule, been taken by College students who were willing to sacrifice comfort to economy. The building has thus for many years been in disfavor among many students of the University; and the School has borne the reputation of being the resort of few who could live elsewhere. The brevity of a college tradition is illustrated by the fact that in a half-dozen years Divinity Hall has been transformed into one of the most popular dormitories, and is now occupied by a select and congenial colony. A pleasant Common-Room makes a meeting place for all occupants of the Hall, a large bath-room with four slate compartments for shower-baths, and a reserved tennis court are provided; and application for residence by students not members of the School must be approved by the Dean. Students of the Graduate School and the professional schools are preferred in these applications, which are now in excess of the capacity of the Hall. The establishment of a social centre within a dormitory, and the giving of a specific character to dormitory life, is not without instructiveness for the administration of other University buildings.

An important characteristic of the School is its relation with other departments of the University. Opportunities are given to Divinity students of election beyond the curriculum of Theology; and other students are given the corresponding opportunity of entering courses in Theology. This relation grows constantly closer. On the one hand, Divinity students may count, subject to the approval of the Faculty, out of 14 courses for the degree of S.T.B. two courses which are not announced by the Faculty of Theology; and on the other hand, seven of the Faculty of Theology are members of the Faculty of Arts and Sciences, and offer the greater part of their courses to students not registered in the Divinity School. This intimate relationship is to the great advantage of the Divinity School. It establishes its position as a University School; it fixes in it the same standards of work which prevail in other departments; it sets Divinity students in immediate competition with other advanced students of the University; and it encourages in other students appreciation and respect for theological studies. On the other hand, the relation is of at least equal advantage to students not of the

Divinity School. It enlarges the curriculum of the Faculty of Arts and Sciences by about thirty courses; and draws to the service of the College and the Graduate School, as teachers, administrators, and members of committees, colleagues whose predecessors passed their days in a corner of University life. The proportions of this interchange of instruction are represented in the following table, and indicate, first, the range of University studies which appear to be most inviting to Divinity students; secondly, the studies of the Divinity School which are attended by students outside the School. The Divinity School profits directly by the relation to the extent of 25 elections; the Graduate School and the College to the extent of 253 elections.

Divinity students taking courses offered only by the Faculty of Arts and Sciences, 1902–03 : —

Semitic	4½	elections.
Greek	1	"
English	1	"
German	1	"
History	3	"
Economics	2	"
Philosophy	12	"
Geology	½	"
	25	"

Non-Divinity students electing courses offered by the Divinity School, 1902–03 : —

Old Testament	58	elections.
New Testament	11	"
Church History	11	"
History of Religions	44	"
Theology	2	"
Social Questions	127	"
	253	"

This increasing association of the Divinity School with other courses of advanced study has brought with it new problems of adjustment, and suggests new ways of usefulness. Registration of students for theological, philosophical, and sociological studies may be made with almost equal convenience in the Divinity School or the Graduate School. Both have the same fee and the same standards of work, and students in either department may elect courses in the other. A friendly understanding has, therefore, been entered upon which provides that such registration shall be made, subject to the preference of the student, on the basis of professional training and intention. A student educated for the ministry, and entering the University to equip himself for a more effective ministry, is recommended to register in the Divinity School; while a student whose professional purpose is philosophy or teaching is directed to the Graduate School, even though his studies may lie within the curriculum of the Divinity School. This adjustment, which is not without difficulties in detail, has been generously promoted by the Dean of the Graduate School.

A second innovation which is likely to have increasing importance in the history of the School is the resort to its instruction of mature students who have already begun their professional life. The Graduate School, in addition to students proceeding directly from College to the higher degrees, registers a considerable group of students who have a year of absence from their professional work, or who are pausing at the University between one appointment and another. The same class of students now begins to turn to the Divinity School. Settled pastors who find their professional training inadequate or misdirected; ministers who realize that they must force themselves to systematic study if they are to give effective service; candidates who are pausing between one settlement and another for intellectual refreshment, turn to the Divinity School for encouragement and instruction. These students should not disarrange the present plan of the School to give a systematic training of three years leading to a degree; but this new group of scholars testifies to a healthy recognition of the new demands of scholarship on the Christian ministry, and the curriculum of the School should take account of these new needs.

The forty students enrolled in the year 1902–03 were distributed as follows: —

Resident Graduates	17
Senior Class	7
Middle Class	4
Junior Class	7
Special Students	5
Total	40

Twenty-three colleges were represented as follows:—

Antioch College	1	Rollins College	1
Bates College	1	Simpson College	1
Bowdoin College	1	Southern University	1
Brown University	3	University of Toronto	1
Dartmouth College	1	Trinity College	1
Geneva College	1	Tufts College	1
Harvard University	8	Valparaiso College	1
Kenyon College	1	Wesleyan University	1
University of Maine	1	Yale University	1
University of Missouri	1		32
Mount Union College	1	Counted more than once	2
Muhlenberg College	1		30
University of Pennsylvania	1		
Queen's University	1		

Seventeen theological seminaries were represented as follows:—

Andover Theological Seminary	1
Allegheny Reformed Presbyterian Theological Seminary	1
Bangor Theological Seminary	1
Boston University	2
University of Chicago	1
Concordia Theological Seminary	1
Christian Biblical Institute	1
Theological Seminary, Evangelical Lutheran Church, Philadelphia, Pa.	1
Garrett Biblical Institute	1
Harvard University	1
Meadville Theological School	4
Newton Theological Institution	1
Divinity School of the Protestant Episcopal Church in Philadelphia	1
Queen's University	1
St. Lawrence University	1
Tufts College	1
Vanderbilt University	1
	21
Counted more than once	1
	20

Five members of the School were recommended for the degree of S.T.B., and four received the degree of A.M.

A Summer School was held, as in the four preceding years, from July 7 to July 23; the entire series of forty-five lectures being devoted to the subject: "Principles of Education in the Work of the Church." The Faculty of the School was reinforced by representatives of Dartmouth College, the University of Chicago, Northwestern University, the Meadville Theological School, and by the Rev. Samuel M. Crothers, D.D. The five sessions of the School have had the following record of attendance: —

	Men.	Women.	Total.
1899	96	9	105
1900	52	2	54
1901	84	5	89
1902	74	4	78
1903	54	4	58

The distribution by denominations, in the case of ministers attending in the five years, was as follows: —

	Orthodox Congregational.	Unitarian Congregational.	Episcopalian.	Universalist.	Baptist.	Presbyterian.	Disciples.	Methodist.	Free Baptist.	Lutheran.	Christian Connection.	German Reformed.	Moravian.
1899	27	17	16	14	5	3	..	..	..	..	..	..	..
1900	17	6	3	14	6	..	3	3	..	..	..	..	..
1901	28	12	11	14	5	2	..	10	1	1	..	..	..
1902	28	7	15	3	5	1	1	8	1	1	..	..	..
1903	21	4	10	5	..	5	3	1	1	..	1	1	1

The following is a list of the Courses of Instruction offered in the School in the year 1902–03. With each course is a statement of the number of students electing it from the Divinity School, the Graduate School, and from the College. There is appended to the list of regular courses a list of the lectures of the Summer School. Almost all of the students enrolled in the Summer School attended all its courses.

COURSES OF INSTRUCTION.

INTRODUCTION TO THE STUDY OF THEOLOGY.

Professor G. F. Moore. — Twelve lectures (*first half-year*). (Not counted for a degree.) 6 Div.

OLD TESTAMENT.

1. Dr. Haynes. — Hebrew. Davidson's Introductory Hebrew Grammar. Explanation of parts of Genesis and of the Psalm-book. 5 Col.

2. Professor Lyon. — Hebrew (second course). — Syntax. Interpretation of parts of the Prophets and the Poetical Books. Text-criticism. 3 Div., 2 Col.

9 *hf.* Dr. Haynes. — Hebrew (course for rapid reading). *Half-course.*

3 *hf.* Dr. **Haynes.** — Jewish Aramaic. Kautzsch's Biblisch-Aramäische Grammatik. — Interpretation of parts of Ezra, Daniel, and the Targums. *Half-course.* 2 Div., 1 Col.

4. Professor **Lyon.** — History of Israel, political and social, till the capture of Jerusalem by the Romans. Text-books, lectures, and theses. 40 Col.

5. Professor G. F. **Moore.** — History of Hebrew Literature. 7 Div., 2 Col.

6. Professor G. F. **Moore.** — History of the Hebrew Religion. 5 Div., 2 Gr., 2 Col.

7. Dr. **Haynes.**—Assyrian. Lyon's Assyrian Manual. Delitzsch's Assyrian Grammar. Delitzsch's Assyrische Lesestücke (ed. 4). 1 Div., 1 Gr., 3 Col.

8. Professor **Lyon.** — Assyrian (second course). Delitzsch's Assyrian Grammar. The Chaldean Epic. Letters and Commercial Documents. 3 Div.

20. Research courses. The instructors will arrange and supervise for any properly prepared student a line of special study on such topic as may be agreed on. 3 Div.

The Semitic Conference held meetings twice a month throughout the academic year. The subject for 1902–03 was The Relations between Egypt and Canaan. There were essays and discussions. In addition to the regular work letters from foreign correspondents were read from time to time, and notes were presented calling attention to new publications, to travels, explorations, and discoveries, and to additions to the Semitic Museum and the Semitic Library. The meetings were held in the Semitic Museum.

NEW TESTAMENT.

2. Asst. Professor **Ropes.**—Introduction to the Study of the New Testament.— *First half-year:* The origin and history of the New Testament writings. *Second half-year:* The teaching of Jesus Christ, and the theological and ethical ideas of the New Testament Writers. 7 Div., 6 Col.

6 [1]*hf.* Asst. Professor **Ropes.** — The Gospel and Epistles of John. — Selected portions. *Half-course.* 4 Div., 1 Col.

7 [2]*hf.* Asst. Professor **Ropes.** — The Apostolic Age. — Study of the Acts of the Apostles. *Half-course.* 3 Div., 1 Gr., 1 Col.

8. Asst. Professor **Ropes.** — The Epistles of Paul. — Selected portions. 3 Div., 1 Col.

14 [1]*hf.* Professor E. C. **Moore.** — The Origin and Growth of the New Testament Canon in its relation to the rise of the Catholic Church and the beginnings of the history of the Dogma. *Half-course.* 3 Div.

22 *hf.* Dr. **Haynes.** — Classical Aramaic (Syriac). — Rödiger's Chrestomathia Syriaca (ed. 3). The Peshitto version of the New Testament. *Half-course.* 4 Div., 1 Col.

20. Asst. Professor **Ropes.** — Advanced study and research. 1 Div.

CHURCH HISTORY.

1. Professor **Emerton**. — General Church History to the end of the Seventeenth Century. 8 Div., 2 Gr., 6 Col.

5. Professor **Emerton**. — History of Christian Thought, considered in its relation to the prevailing philosophy of each period from the earliest time to the Eighteenth Century. 8 Div., 2 Gr., 1 Col.

6 *hf.* Professor **Emerton**. — Selected Topics from the Canon Law. *Half-course.*

20. Professor **Emerton**. — Advanced study and research.

2. Professor G. F. **Moore**. — History of Religions in Outline. 11 Div., 2 Gr., 42 Col.

THEOLOGY.

1. Professor **Fenn**. — Outlines of Christian Theology. 9 Div.

2 ¹*hf.* Professor **Fenn**. — New England Theology. *Half-course.* 3 Div.

3 ²*hf.* Professor **Fenn**. — Typical Systems of Christian Theology. *Half-course.* 3 Div.

6. Professor E. C. **Moore**. — The History of Christian Thought since Kant, including a discussion of the present state and tendencies of theological thought. 9 Div., 1 Gr., 1 Col.

SOCIAL QUESTIONS.

1. Professor **Peabody**. — Introductory course. The Ethics of the Social Questions. — The modern social questions: Charity, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory. — Lectures, special researches, and required reading. 7 Div., 4 Gr., 122 Col.

20. Professor **Peabody**. — Sociological Seminary. Subject for the year: The Ethics of Jesus Christ. 12 Div., 1 Rad.

HOMILETICS AND PASTORAL CARE.

1 *hf.* Asst. Professor **Hale**. — The structure and analysis of sermons. *Half-course.* 2 Div.

2. Professors **Peabody**, E. C. **Moore**, and **Fenn**, and Asst. Professor **Hale**. — Each student writes eight sermons during the year, of which some are preached before the class and criticized by students and instructor [in Appleton Chapel], and the rest are criticized by the instructor privately. This course may be taken twice. 17 Div.

3 ²*hf.* Asst. Professor **Hale**. — The Minister as Pastor, and the Direction of Church Activities. *Half-course.* 3 Div.

4 ¹*hf.* Professor **Peabody**. — The Minister as Preacher, and the History of Christian Preaching. *Half-course.* 5 Div.

5 ¹*hf.* Asst. Professor **Hale**. — The Homiletical Use of the New Testament. *Half-course.* 1 Div.

6 ²*hf.* Asst. Professor **Hale**. — The Homiletical Use of the Old Testament. *Half-course.* 4 Div.

ELOCUTION.

1. Mr. **Hills.** — Voice Training, and the Elements of Form in Speaking. In classes of three or four. Preparatory to Course 2. (Not counted for a degree.) 6 Div.

2 *hf.* Mr. **Winter.** — Sermon Delivery, Scripture Reading, Oral Discussion. *Half-course.* 8 Div.

SUMMER SCHOOL OF THEOLOGY.

Professor H. H. **Horne.** — Four lectures: The Foundations of Education.

Rev. S. M. **Crothers**, D.D. — Four lectures: (1) Modern Educational Ideals and their Effect upon Religious Education. (2) The Meaning of Historical Continuity. (3) Education and Natural Piety. (4) The Educational Principle of Correlation.

Professor F. A. **Christie.** — Three lectures: Conversion and Christian Nurture as Illustrated in the History of the New England Churches.

Professor G. A. **Coe.** — Six lectures: The Problems of Religious Education.

Professor G. B. **Foster.** — Six lectures: Authority and its Educational Value in the History of Christianity.

Professor E. **Emerton.** — Five lectures: The Materials and Methods of the Study of Church History.

Professor G. F. **Moore.** — Four lectures: Current Theological Literature.

Professor J. H. **Ropes.** — Two lectures: Exegetical Study: The Righteousness of God in Isaiah and in Paul.

Professor E. C. **Moore.** — Five lectures: Modern Thought, and the Minister as Teacher.

Professor E. **Hale.** — Three lectures: Homiletical Study: The Sermon on the Mount; The Parables; The Letters of Paul.

Professor N. S. **Shaler.** — One lecture: The Emergence of the Religious Sentiment.

Professor F. G. **Peabody.** — Two lectures: The Religion of an Educated Man.

During the year from October 1, 1902, through September 30, 1903, there were added to the Library 306 volumes and 21 pamphlets by purchase, and 288 volumes and 626 pamphlets by gift. October 1, 1903, there were in the Library 33,236 volumes and 8,850 pamphlets. During the year 715 titles were catalogued in the author catalogue and 654 titles in the subject catalogue. There were borrowed from the stack for home use 1,181 volumes, from the stack for hall use 415 volumes, from the reserved books for overnight use 884 volumes.

Early in the year the addition to the Library building was completed. This addition gives two comfortable rooms, one for the use of the Librarian and Secretary, the other for the Library Assistants. These have added very much to the efficiency and comfort of the work. The reading-room is now reserved for its proper uses, except for the delivery desk, as it is no longer necessary to use one of the alcoves for cataloguing purposes. The Secretary now has a convenient room with proper privacy instead of the inconvenience and publicity of a desk in the stack. The basement of the addition connects directly with the stack and has shelving room for about 4,000 volumes.

FRANCIS G. PEABODY, *Dean.*

THE LAW SCHOOL.

To the President of the University: —

Sir, — I have the honor of presenting my report upon the Law School for the academic year 1902–03.

The table on pages 166, 167 gives the courses of study and instruction during the year, the text-books used, the number of exercises per week in each course, and the number of students

Year.	Whole No. of Students.	Total of College Graduates.	Harvard Graduates.	Graduates of other Colleges.	Non-Graduates.	Per cent. of College Graduates.	No. of Colleges represented.
1870–71	165	77	27	50	88	47	27
1871–72	138	70	34	36	68	51	25
1872–73	117	66	34	32	51	56	25
1873–74	141	86	49	37	55	61	25
1874–75	144	82	63	19	62	57	18
1875–76	173	93	60	33	80	54	25
1876–77	199	116	74	42	83	58	30
1877–78	196	121	80	41	75	62	30
1878–79	169	109	71	38	60	64	24
1879–80	177	118	90	28	59	66	20
1880–81	161	112	82	30	49	70	19
1881–82	161	99	66	33	62	61	22
1882–83	138	93	58	35	45	67	32
1883–84	150	105	75	30	45	70	25
1884–85	156	122	85	37	34	78	31
1885–86	158	122	83	39	36	77	29
1886–87	188	143	88	55	45	76	34
1887–88	225	158	102	56	67	70	32
1888–89	225	158	105	53	67	70	32
1889–90	262	189	122	67	73	72	41
1890–91	285	200	135	65	85	70	38
1891–92	370	257	140	117	113	69	48
1892–93	405	266	132	134	139	66	54
1893–94	367	279	129	150	88	76	56
1894–95	413	310	139	171	103	75	74
1895–96	475	380	171	209	95	80	82
1896–97	490	408	186	222	82	83	82
1897–98	551	490	229	261	61	89	77
1898–99	564	503	212	291	61	89	78
1899–00	613	557	236	321	56	91	67
1900–01	655	605	252	353	50	92	83
1901–02	633	584	247	337	49	92	92
1902–03	644	600	241	359	44	93	94
1903–04	741	693	272	421	48	94	111

who offered themselves for examination in each course at the end of the year.

During the twelve months from October 1, 1902, to October 1, 1903, 8,392 bound volumes and 440 pamphlets were added to the library. The library contained, October 1, 1903, about 75,800 volumes and 7,000 pamphlets.

The exceptionally large addition to our books in the past year is due to two notable gifts from Mr. Learned Hand and from Mr. Edmund James Drifton Coxe.

Mr. Hand, who graduated at the School in 1896, gave to the library 1,420 volumes from the library of his father, the late Samuel Hand, Associate Judge of the Court of Appeals of the State of New York. An additional interest attaches to this gift from the fact that many of the books belonged at one time to two other eminent New York lawyers, Esek Cowen and Nicholas Hill. This gift was especially welcome as coming from an alumnus of the School.

To Mr. Coxe, an alumnus of the Scientific School, we are indebted for his gift of the law library of his father, the late Brinton Coxe, consisting of 3,225 volumes and 92 pamphlets, and containing many rare volumes of English, American, Roman, and Canon law. Mr. Coxe's gift, by far the largest and most valuable gift of books ever received by the School, includes a nearly complete set of the decisions of the Rota Romana, which will always be one of the distinctions of our library.

The table on page 164 exhibits the growth of the School during the last thirty-two years, in the number of the students, the number and percentage of college graduates, and in the number of colleges represented by their graduates. The figures for the current year will be slightly increased by later entries.

The number of non-graduates, 48, is somewhat misleading. Thirty-six of these are Harvard College Seniors, on leave of absence and registered in the Law School, of whom 31 have completed the work for the degree of A.B., and 5 are deficient only in college admission requirements. If these 36 seniors be transferred to the College Graduate column, we have 728 graduates, and the percentage of college graduates rises from 94 to 99.

It will be observed that the gain in the number of students in the current year exceeds that of any preceding year. Not less interesting is the increase in the number of colleges represented in the School. This growth of the School seems not to be traceable to any special or temporary cause, but to be the result of a spreading

Instructors.	Studies and Text-books.	Exercises per week.	Number of students examined.
	First Year.		
Prof. Williston	Contracts. Cases on Contracts: Langdell, vol. 1 (2d ed.), Williston, vol. 2	3	233
Asst. Prof. Westengard —— ——	Property. Gray's Cases on Property, vols. 1, 2	2	247
Prof. Smith	Torts. Cases on Torts: Ames, vol. 1 (2d ed.), Smith, vol. 2	2	248
Prof. Beale. Mr. Peabody	Criminal Law and Procedure. Beale's Cases on Criminal Law	2	236
—— ——	Civil Procedure at Common Law. Ames's Cases on Pleading	1	239
	Second Year.		
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	31
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	28
Prof. Gray	Evidence. Thayer's Cases on Evidence (2d ed.)	2	201
Prof. Ames. Prof. Beale	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction	2	199
Asst. Prof. Westengard Mr. Wyman	Property. Gray's Cases on Property, vols. 3, 4	2	200
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	167
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	197
Prof. Ames	Admiralty. Ames's Cases on Admiralty	1	2
Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	5
Mr. Wyman	Carriers	1	9
Prof. Wambaugh	Contracts II. No text-book	1	3
Prof. Brannan	Damages. Beale's Cases on Damages	1	1
Prof. Smith	Persons. Smith's Cases on Persons	1	9
Prof. Wambaugh	Quasi-Contracts. Keener's Cases on Quasi-Contracts	1	4

Third Year.

Prof. Gray	Conflict of Laws. Beale's Cases on the Conflict of Laws	2	80
Prof. Beale	Constitutional Law. Thayer's Cases on Constitutional Law	2	134
Prof. Smith	Corporations. Smith's Cases on Private Corporations (2d ed.). Smith's Cases on Municipal Corporations	2	181
Prof. Ames	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction	2	24
Prof. Brannan	Partnership. Ames's Cases on Partnership	2	23
Asst. Prof. Westengard	Property. Gray's Cases on Property, vols. 5, 6	2	36
Mr. Wyman	Suretyship and Mortgage. Ames's Cases on Suretyship	2	122
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	14
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	73
Prof. Thayer. Prof. Beale	Evidence. Thayer's Cases on Evidence	2	2
Prof. Gray Asst. Prof. Westengard	Property II. Gray's Cases on Property, vols. 3, 4	2	2
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	27
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	13
Prof. Strobel	Admiralty. Ames's Cases on Admiralty	1	12
Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	112
Prof. Beale	Carriers. McClain's Cases on Carriers and Beale's Cases on Carriers	1	62
Prof. Wambaugh	Contracts II. No text-book	1	5
Prof. Brannan	Damages. Beale's Cases on Damages	1	5
Prof. Ames	Equity III. Ames's Cases in Equity Jurisdiction	1	48
Prof. Wambaugh	Insurance. Wambaugh's Cases on Insurance	1	42
Prof. Smith	Persons. Smith's Cases on Persons	1	10
Prof. Wambaugh	Quasi-Contracts. Keener's Cases on Quasi-Contracts	1	41

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Prof. Smith	Torts. Cases on Torts: Ames, vol. 1 (2d ed.), Smith, vol. 2	2	248
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Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	5
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Mr. Wyman	Suretyship and Mortgage. Ames's Cases on Suretyship	2	122
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	14
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	73
Prof. Thayer. Prof. Beale	Evidence. Thayer's Cases on Evidence	2	2
Prof. Gray Asst. Prof. Westengard	Property II. Gray's Cases on Property, vols. 3, 4	2	2
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	27
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Asst. Prof. Westengard Mr. Wyman	Property. Gray's Cases on Property, vols. 3, 4	2	200
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	167
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	197
Prof. Ames	Admiralty. Ames's Cases on Admiralty	1	2
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Mr. Wyman	Carriers	1	9
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Prof. Beale	Constitutional Law. Thayer's Cases on Constitutional Law	2	184
Prof. Smith	Corporations. Smith's Cases on Private Corporations (2d ed.). Smith's Cases on Municipal Corporations	2	181
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Prof. Brannan	Partnership. Ames's Cases on Partnership	2	28
Asst. Prof. Westengard	Property. Gray's Cases on Property, vols. 5, 6	2	36
Mr. Wyman	Suretyship and Mortgage. Ames's Cases on Suretyship	2	122
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	14
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	73
Prof. Thayer. Prof. Beale	Evidence. Thayer's Cases on Evidence	2	2
Prof. Gray Asst. Prof. Westengard	Property II. Gray's Cases on Property, vols. 3, 4	2	2
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	27
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	13
Prof. Strobel	Admiralty. Ames's Cases on Admiralty	1	12
Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	112
Prof. Beale	Carriers. McClain's Cases on Carriers and Beale's Cases on Carriers	1	62
Prof. Wambaugh	Contracts II. No text-book	1	5
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Prof. Ames	Equity III. Ames's Cases in Equity Jurisdiction	1	48
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confidence in our standards and methods as illustrated in our graduates. Another evidence of this confidence is the growing disposition of other law schools in all parts of the country except the Southern States to adopt our curriculum, methods, and collections of cases.

Austin Hall is now much too small both for our students and for our books. 20,000 volumes of the library are now shelved in the annex of Lawrence Hall. The School must suffer unless the enlargement of our accommodations is begun without further delay.

With the recent change in the requirements for admission to the Medical School, that School, the Divinity School, the Law School, and the Graduate School have become coördinate departments of the University. The students in each of these professional schools are college graduates, and the curriculum in each is not less than three years. The degree conferred by these Schools, representing the same amount of collegiate and professional training, would naturally be of the same rank in point of form as well as in substance. But this desirable uniformity does not exist. The graduates of the Medical School and Graduate School receive a doctor's degree, while the graduates of the Law School and Divinity School receive a bachelor's degree. Academic propriety seems to require that the graduates of each of these schools should receive the doctor's degree. But the suggested change is desirable for other reasons than mere uniformity. If the standards of a professional school are so high that graduation means the successful completion of a collegiate as well as a professional course, it is for the interest of the University to emphasize this high standard by a degree which, from its form, suggests that it is a second degree. As a matter of justice it is difficult to defend the present discrimination against the graduates in law and divinity. On Commencement Day the graduate in law is already authorized to wear the doctor's gown. Is he any the less entitled to the doctor's degree?

JAMES BARR AMES, *Dean.*

THE FACULTY OF MEDICINE.

To the President of the University: —

Sir, — As Dean of the Faculty of Medicine I have the honor to submit the following report for the academic year 1902–03.

In the report of last year the name of Dr. E. S. Wood was accidentally omitted as a member of the Advisory Committee appointed by the President on the location and construction of the new buildings of the Medical School. He served on this committee, and was subsequently appointed a member of the sub-committee on the Building for Physiology and Physiological Chemistry, as appears in the report.

The fee for the fourth year in the Medical School for all students entitled to be classified as fourth-year students, who have also been members of the School for three full years, has for many years been one hundred dollars, with a graduation fee of thirty dollars. Students entering the School after the academic year 1902–03 will be charged a fee of two hundred dollars for the fourth year, and will be exempt from the payment of a graduation fee.

A Students' Health Committee has been appointed from the teachers in the Medical and Dental Schools, the members of which can be consulted by the students on matters pertaining to personal health and hygienic surroundings. The Committee consists of Drs. H. C. Ernst, J. J. Putnam, E. H. Smith, J. B. Blake, and G. S. C. Badger.

The name of the Committee on Scholarships has been changed to that of Committee on Scholarships and Students' Aid, and the scope of work assigned to its members has been correspondingly enlarged.

At the close of the academic year, 141 men were recommended to the Corporation for degrees, as follows: —

Medical School . .	For the degree of M.D.	93
	" " " *cum laude* . . .	21
Dental School . .	For the degree of D.M.D.	22
	" " " *cum laude* . .	5
	Total	141

The Committee on the Course of Study and the Committee on Medical Education, acting as a joint committee, have held many meetings to perfect the plans outlined in a vote of the Faculty of

Medicine, establishing an elective fourth year. This change applies to the class which entered in the fall of 1902, and the first-year instruction of this class, now just completed, was based on the new arrangement. During the second term of the year Pathological Chemistry was taught in addition to Physiological Chemistry, the former having been originally a second-year subject. Changes in the second-year curriculum have been arranged for the coming year to conform to the proposed change in the fourth year.

WILLIAM L. RICHARDSON, *Dean.*

THE MEDICAL SCHOOL.

To the President of the University: —

Sir, — As Dean of the Medical School I have the honor to submit the following report for the academic year 1902–03.

The Administrative Board was constituted as follows: Drs. W. L. Richardson, J. C. Warren, E. S. Wood, F. C. Shattuck, W. F. Whitney, C. M. Green, C. Harrington, F. Dexter, and F. B. Mallory.

The Departments of Surgery, Clinical Surgery, and Orthopedic Surgery have been organized into a Division of Surgery for administrative purposes and to obtain coördinate action in the various subdivisions of Surgery.

An examination in elementary organic chemistry has been added to the requirements for admission, to take effect in and after September, 1907.

Drs. J. C. Warren, W. F. Whitney, C. S. Minot, F. B. Mallory, and W. B. Cannon were appointed a Committee to prepare an exhibit from the Medical School at the St. Louis Exposition in 1904.

Building. — The only change of importance which has been made in the Medical School building during the past year has been the extension of the ventilating apparatus. The flues connecting with the hoods in the various laboratories in the main building have been connected by means of pipes with the ventilating fan, which was formerly used only for ventilating the dissecting room. This measure has been made necessary by the erection of a high building on the opposite side of Exeter street. It was found after this building was erected that, with westerly winds, it was impossible to ventilate the laboratory hoods.

The Massachusetts Commandery of the Military Order of the Loyal Legion of the United States has placed in the Medical School building a bronze mural tablet to the memory of Zabdiel Boylston Adams, A.B., M.D., a graduate of the Medical School in 1853.

Anatomy. — During the past year many valuable specimens have been added to the collection of variations of bones of the wrist and ankle; and an element in the wrist (the *subcapitatum*) has been observed which had never before been found distinct, but always as a part of the *os magnum*. This collection promises to become, if it is not already, second only to that of the late Professor Pfitzner, of Strassburg. A series of shoulder blades, with large descriptive labels, have been arranged as a model for the exhibition of special collections in museums. Some curious specimens of anomalies of other parts have also been added. The demonstrator, Dr. John Warren, has made several excellent preparations; and the sets of frozen sections are increasing.

An Anatomical Research Fund has been started during the year for the purpose of meeting the expenses, which seem to be constantly growing heavier, of carrying on original work, and of publishing and distributing reports of such work.

The observations which have been going on for several years on certain sexual characteristics of bones are nearly completed, and the results will soon be published.

The following list of publications represents a part of the work of the department: —

An example of a proposed arrangement of specimens of a single structure for museums. By Professor THOMAS DWIGHT. *The Journal of Medical Research*, May, 1903.

Problems of clinical anatomy. By Professor THOMAS DWIGHT. *Proceedings of the Massachusetts Medical Society*, 1903, and *Boston Medical and Surgical Journal*, July 30, 1903.

The branches of the superior mesenteric artery to the jejunum and ileum. By Professor THOMAS DWIGHT. *Anat. Anzeiger*, Bd. XXIII, 1903.

A case of hour-glass stomach observed in sitû. By Professor THOMAS DWIGHT. *American Journal of the Medical Sciences*, October, 1903.

The development of the Paraphysis in the common fowl. By Associate Professor FRANKLIN DEXTER. *American Journal of Anatomy*, Vol. II, No. 1.

The anatomy of the inferior ethmoidal turbinate bone with particular reference to cell formation: surgical importance of such ethmoid cells. By Dr. H. A. LOTHROP. *Annals of Surgery*, May, 1903.

Measurements for operating-distances in the nose. By Dr. H. P. MOSHER. *Annals of Surgery*, October, 1902.

The anatomy of the operation of reaching the ethmoid cells through the antrum. By Dr. H. P. MOSHER. *American Journal of the Medical Sciences*, October, 1902.

The anatomy of the sphenoidal sinus and the method of approaching it from the antrum. By Dr. H. P. MOSHER. *The Laryngoscope*, March, 1903.

The role of atmospheric pressure in the hip joint. By Dr. S. W. ALLEN. *Boston Medical and Surgical Journal*, April 9, 1903.

Notes on the development of the pharynx after birth. By Professor THOMAS DWIGHT. *Annals of Otology, Rhinology, and Laryngology*, Vol. XI, November, 1902.

Physiology. — There have been published the following papers containing investigations by the laboratory staff: —

Further observations on the movements of the stomach and intestines. By Dr. W. B. CANNON. *The American Journal of Physiology*, 1903, Vol. VIII, pp. 21, 22.

The tonus of heart muscle. By Associate Professor W. T. PORTER. *The American Journal of Physiology*, 1903, Vol. VIII, p. 26.

New inductorium, kymograph, heart lever, heavy muscle lever, and square rheochord. By Associate Professor W. T. PORTER. *The American Journal of Physiology*, 1903, Vol. VIII, pp. 35–41.

Physiology at Harvard. By Associate Professor W. T. PORTER. Second edition. The University Press, Cambridge, Mass., 1903, pp. 110.

Experiments for students in the Harvard Medical School. By Associate Professor W. T. PORTER. Third edition. The University Press, Cambridge, Mass., 1903, pp. 117.

Observations on the mechanics of digestion. By Dr. W. B. CANNON. *The Journal of the American Medical Association*, Vol. XL, pp. 749–753.

Salivary digestion in the stomach. By Dr. W. B. CANNON and Mr. H. F. DAY. *The American Journal of Physiology*, 1903, Vol. VIII, p. 28, and Vol. IX, pp. 396–416.

The condition of the vasomotor neurons in surgical shock. By Associate Professor W. T. PORTER and Dr. W. C. QUINBY. *The Boston Medical and Surgical Journal*, Vol. CXLIX, No. 17, October 22, 1903.

Histology and Embryology. — The equipment for the elementary instruction has been improved, particularly in the quality and number of the microscopical preparations furnished to students. The sections of pig and chicken embryos furnished to each student are worthy of special mention. For several years a few new microscopes have been added annually, and it became possible this year for the first time to give all the students instruments of the best quality. The course was conducted by Drs. Bremer and Lewis, Professor Minot being absent on a half-year's leave.

The embryological collection has been increased by 143 new series of sections of embryos, which brings the total number of series up to 695. About 500 more series will complete the original plan and render the collection fairly representative of the early development of the principal types of vertebrates. It is already used as a basis of research, and as a means of confirming discoveries announced from other laboratories. Professor Minot during his absence worked at the Zoölogical Station at Naples, and obtained there a large number of early stages of Amphioxus, Petromyzon, and Torpedo.

which will go far towards completing the representation of fish types in the collection.

Mr. Ewing Taylor, aided by the Austin Fund, has been engaged in preparing, in collaboration with Professor Minot, the "*Normal plates*" on the rabbit, to form part of Professor Keibel's "*Normentafeln.*" Good progress has been made. The work will be published at Jena, by Gustav Fischer. Other researches have been carried on by Professor W. A. Locy, of Northwestern University, and by Drs. Bremer, Lewis, and Warren.

The following publications have appeared: —

A Laboratory Text-book of Embryology. By Professor CHARLES S. MINOT. Square 8vo, pp. 380. P. Blakiston's Son & Company, Philadelphia.

Neurenteric canals, and Proamnion. By Professor CHARLES S. MINOT. Buck's Reference Handbook. (In press.)

Development of the lung in the opossum. By Dr. J. L. BREMER. *American Journal of Anatomy.*

The gross anatomy of a 12 mm. pig. By Dr. F. T. LEWIS. *American Journal of Anatomy*, Vol. II, pp. 211–226.

Umbilical Cord, and Yolk-sack. By Dr. F. T. LEWIS. *Buck's Reference Handbook.* (In press.)

The library has become quite extensive, the private collection of embryological literature of the Professor in charge having been deposited in the laboratory, and made accessible to advanced workers. The School subscribes to journals, and there have been added twenty-six others, and a collection of about 6,000 pamphlets, all catalogued. A large majority of modern embryological publications may at present be consulted in the laboratory itself. It is a matter of regret that provision for continuing this arrangement has not been made in the new building.

Bacteriology. — No marked changes have taken place in the instruction given in the department. It is interesting to note, however, that the form of instruction has been copied in two other medical schools so far as possible, the manuscript "laboratory exercises" having been borrowed for the purpose of founding courses upon it.

Dr. Hibbert W. Hill has been added to the force of the department as Instructor in Bacteriology, with the understanding that what instruction he may be called upon to give will be of a graduate nature.

Professor H. C. Ernst has published a small volume, "Modern Theories of Bacterial Immunity," based upon a short course of lectures given by request to the second class. He has continued the editorship of *The Journal of Medical Research*, and has taken part in and exercised supervision over many of the following pieces of work: —

Langdon Frothingham, M.D.V., has published the following: "Foot and Mouth Disease," an address to the Maine State Dairymen's Association at Waterville, Maine, *Report of the Commissioner of Agriculture of the State of Maine*, 1902; "Foot and Mouth Disease," *Boston Medical and Surgical Journal*, January 1, 1903.

A number of specimens of Foot and Mouth Disease have been added to the Warren Museum.

Dr. S. B. Wolbach has completed a portion of his work, which is ready for immediate publication in *The Journal of Medical Research*. He has conducted experiments as follows: — I. Comparisons of tuberculines from tubercle bacilli of human and bovine origin: (*a*) as to strength, in an attempt to standardize by finding the minimal lethal dose for tuberculous guinea pigs; (*b*) as to the therapeutic action of tuberculous guinea pigs. II. Comparisons of cultures of tubercle bacilli of human and bovine sources on different media and at different ages.

Dr. Calvin G. Page attended the Fourteenth Medical Congress at Madrid, and represented the department there.

Dr. F. P. Denny completed his observations on the "Morphology of B. diphtheriae, B. pseudo-diphtheriae, and B. xerosis," which were published in *The Journal of Medical Research*, March, 1903, Vol. IX, p. 117.

Dr. Joseph H. Pratt has published an article "On paratyphoid fever and its complications," in the *Boston Medical and Surgical Journal*, based in part upon work done in this department.

Chemistry. — Instruction in Chemistry given during the past year to the second class was the same as that given the previous year; but the instruction given to the first class was changed very decidedly, on account of the new arrangement of courses adopted by the Faculty. By this new arrangement the first class was given the whole of its instruction in Physiological Chemistry during February and March under the direction of Professor Hills. During April and May the first class was taught Pathological Chemistry under the direction of Professor Wood. This course could not be as complete as that which was given to the second class, but it is expected that the elective course in Pathological Chemistry to be given this class during its fourth year will make up for this deficiency. It will be impossible to form an opinion in regard to the efficiency of the instruction in Pathological Chemistry under this new arrangement until this first class has completed its fourth year. As the instruction in Pathological Chemistry was given during April and May to both the first and second classes simultaneously, it was impossible to give the first class as much instruction on this subject as they will have hereafter, on account of lack of lecture-room facilities. During April and May Dr. Wood gave four exercises a week to the second class on Pathological Chemistry, and only three hours to the first class, as no lecture room or time could be obtained. Hereafter the first class will have four hours a week in Pathological Chemistry in the lecture room.

An article, by Dr. Wood, on the Medico-Legal Examination of Blood and Seminal Stains is now in press, and will be published soon in Vol. II of the *Text-book of Legal Medicine and Toxicology*, by Peterson & Haines.

Experimental Pharmacology and Therapeutics. — The following represents the work done in this department during the year: —

Ueber Durchblutung isolirter Nieren und den Einfluss defibrinirten Blutes auf die Secretion der Nieren. By Drs. FRANZ PFAFF and M. VEJUX-TYRODE. *Archiv. f. Exper. Pathol. u. Pharmacol*, 1903, Bd. XLIX.

Relation between pharmacological action of drugs and their therapeutical application. By Dr. M. VEJUX-TYRODE. *The Journal of the American Medical Association.*

Mercurial diuresis. By Dr. M. VEJUX-TYRODE and Mr. L. NELSON. *The Journal of Medical Research*, August, 1903, Vol. X, No. 1.

On the influence of various fats on the formation and excretion of acetone. By Dr. E. P. JOSLIN. *Transactions of Association of American Physicians*, 1903.

A new method of performing metabolism experiments. By Mr. FRANCIS MCCRUDDEN. *The Journal of Medical Research*, March, 1903.

Eine Methode den anorganischen Stoffwechsel zu studiren. By Mr. FRANCIS MCCRUDDEN. *Verhandlungen des Kongresses für verwandte chemie*, Berlin, May, 1903.

A study of the condition of the uric acid in the urine. By Mr. FRANCIS MCCRUDDEN. *Boston Medical and Surgical Journal*, August, 1903.

Pathology. — The department is now enabled, by means of a fund provided by Dr. W. N. Bullard and Dr. J. J. Putnam, of Boston, to develop neuropathology more fully, and to bring it in closer relation with general pathology. The plans now developed for this work will be on trial for a period of five years, and involve (*a*) the examination and report of the pathological side of such nerve cases as the department controls, and (*b*) the prosecution of research both on accepted lines (the system-diseases, the cellular pathology of the cerebral cortex, and studies in the neuroglia reaction) and on such original lines as may offer. The laboratory also offers its services in the investigation of material from institutions and in assisting the investigation of nervous diseases.

A preliminary report of the investigations carried on by members of the department on small-pox has been made. During the spring and summer Professor G. N. Calkins, of Columbia University, has been associated with members of the department in this work. A full report embracing the anatomical lesions and etiology of small-pox and vaccinia is now in preparation, and will appear in January. Papers on various aspects of the disease were read by Professor Councilman, Dr. Magrath, and Dr. Brinckerhoff at the meeting of the Society of Pathologists and Bacteriologists in Washington in May. One thousand dollars has been given in aid of the work, by an unknown donor, and two fellowships and one thousand dollars by the Rockefeller Institute.

Dr. H. A. Christian spent the summer in Tübingen working on leucotoxins in Professor Krehl's laboratory.

The following papers by the members of the department and by men working under them in the Pathological Laboratories of the School and the Hospitals have been published during the past year: —

Blank-cartridge wound infected with tetanus bacilli, prompt excision; no tetanus. By Dr. JOHN BAXTER BAIN. *Annals of Surgery*, 1903, Vol. XXXVII, p. 399.

Ring bodies (nuclear remnants?) in anaemic blood. By Dr. R. C. CABOT. *The Journal of Medical Research*, February, 1903, Vol. IV, p. 15.

A study of the urinary analyses and post-mortem findings in five hundred cases of disease affecting the kidneys. By Dr. R. C. CABOT. One of the Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons, New York, delivered December 17, 1902.

A sketch of the history of the treatment of chlorosis with iron. By Dr. H. A. CHRISTIAN. *Medical Library and Historical Journal*, July, 1903.

Neuroglia tissue and ependymal epithelium in teratoid tumors. By Dr. H. A. CHRISTIAN. *Journal of the American Medical Association*, 1903, Vol. XLI, p. 593.

The fats of pneumonic exudations. By Dr. H. A. CHRISTIAN. *The Journal of Medical Research*, 1903, Vol. X, p. 109.

Tuberculosis. By Professor W. T. COUNCILMAN. *Reference Handbook of the Medical Sciences.*

A preliminary report on the etiology of variola. By Professor W. T. COUNCILMAN, and Drs. G. B. MAGRATH and W. R. BRINCKERHOFF. *The Journal of Medical Research*, 1903, Vol. IX, p. 372.

Observations on the distribution and culture of the chancroid bacillus. By Dr. LINCOLN DAVIS. *The Journal of Medical Research*, 1903, Vol. IX, No. 4, p. 401.

Two cases of complete Bilateral Duplication of the ureters. By Dr. A. H. GOULD. *American Journal of Medical Science*, 1903, Vol. CLII, p. 428.

The diagnosis of gonorrheal urethritis. By Dr. A. H. GOULD. *The Boston Medical and Surgical Journal*, 1903, Vol. CXLVIII, p. 412.

Eleven acute and eighteen chronic cases of influenza. Proved by bacteriological examination. By Dr. F. T. LORD. *The Boston Medical and Surgical Journal*, 1903, Vol. CXLVII, No. 25, p. 662.

Sarcoma. By Associate Professor F. B. MALLORY. *Reference Handbook of Medical Sciences.*

Tumors. By Associate Professor F. B. MALLORY. *Reference Handbook of Medical Sciences.*

A case of acute epididymitis in an undescended testicle, with gonococci demonstrated in the excised organ. By Dr. F. T. MURPHY. *The Boston Medical and Surgical Journal*, 1903, Vol. CXLIX, p. 36.

Upon the presence of the typhoid bacillus in the urine and sputum. By Dr. MARK W. RICHARDSON. *The Boston Medical and Surgical Journal*, Vol. CXLVIII, p. 152.

A method for staining sputum for bacteriological examination. By Dr. WILLIAM H. SMITH. *The Boston Medical and Surgical Journal*, 1902, Vol. CXLVII, No. 25, p. 659.

A case of chronic internal hydrocephalus in a youth. By Drs. E. E. SOUTHARD and F. W. ROBERTS. *Medical and Surgical Reports, Boston City Hospital*, 1903.

A case of carcinosis with nodule secondary in the eye. By Dr. E. E. SOUTHARD. *The Boston Medical and Surgical Journal*, September, 1903.

An experimental study of the bacteriolytic complement content of the blood serum in normal, vaccinated, and variolated rabbits. By Dr. R. L. THOMPSON. *The Journal of Medical Research*, 1903, Vol. X, No. 1.

The complement content of the blood serum in variola. By Dr. R. L. THOMPSON. *The Journal of Medical Research*, 1903, Vol. X, No. 1.

A case of extreme malformation of the heart. By Dr. J. H. WRIGHT. *Transactions of the Association of American Physicians*, 1903.

Syncitioma. By Dr. E. E. TYZZER. *Reference Handbook of Medical Sciences.*

Comparative Pathology. — The work of this department during the year did not differ appreciably from that of the preceding year. Since, in the absence of trained assistants, whatever work is done in teaching and preparing therefor falls almost wholly on the professor, the two courses now given consume an undue amount of time. The work of the laboratory has been continued, however, as usual, and the following publications issued: —

The sources, favoring conditions, and prophylaxis of malaria in temperate climates with special reference to Massachusetts. By Professor THEOBALD SMITH. *The Shattuck Lecture, Massachusetts Medical Society,* 1903; *Medical Communications,* Vol. XIX, pp. 349–410, and *The Boston Medical and Surgical Journal,* 1903.

Concerning the probable effect of the proposed fresh-water basin (Charles River) on the occurrence of malaria, etc. By Professor THEOBALD SMITH. *Report of Committee on Charles River Dam,* 1903, Appendix, pp. 111–129.

The agglutination-affinities of related bacteria parasitic in different hosts. By Professor THEOBALD SMITH and Dr. A. L. REAGH. *The Journal of Medical Research,* Vol. IX, pp. 270–300.

The non-identity of agglutinins acting upon the flagella and upon the body of bacteria. By Professor THEOBALD SMITH and Dr. A. L. REAGH. *The Journal of Medical Research,* Vol. X, pp. 89–100.

A study of the necroses occurring in the livers of experimental animals after inoculation with hog-cholera bacilli. By Mr. C. H. BOXMEYER. *The Journal of Medical Research,* Vol. IX, pp. 146–164.

(The three last-mentioned investigations were aided by the Rockefeller Institute for Medical Research.)

During the summer laboratories in England and on the continent were visited. Special attention was given to the equipment and conduct of those for the preparation of vaccine lymph in view of the recent act of the Legislature of this State authorizing the establishment of such a laboratory by the State Board of Health.

Surgery. — During the year there were but few changes in the method of teaching. The third-year class in small sections stayed for an hour after the lectures in Surgery at the School, and had demonstrated to them the specimens in the Warren Museum.

The following is the list of publication of members of the Division of Surgery during the year: —

Dr. E. H. BRADFORD.
  Congenital dislocation of the hip; causes of relapse.
  Arthritis deformans.
  Treatment of lateral curvature.
  Shoe deformities.
    (All published in *Transactions of American Orthopedic Association.*)

Dr. M. H. RICHARDSON.

The contributions of surgery to internal medicine. *Transactions of American Surgical Association*, Vol. XXI.

On the surgical treatment of the diseases of the biliary passages. *Journal of the Maritime Medical Association.*

A few remarks concerning the surgery of the biliary passages. *Cleveland Medical Journal.*

Indications for extirpation of the gall-bladder and technique of the operation. *Medical News*, New York.

Dr. H. H. A. BEACH.

Enlarged third lobe of prostate gland; suprapubic exploration; removal of third lobe and three calculi. *Boston Medical and Surgical Journal*, March 19, 1903.

Cancer of pylorus; obstruction; gastroenterostomy with McGraw ligature. *Boston Medical and Surgical Journal*, March 19, 1903.

Biliary fistula following cholecystotomy; choledochotomy; recovery. *Boston Medical and Surgical Journal*, March 19, 1903.

Cholelithiasis; choledochotomy; recovery. *Boston Medical and Surgical Journal*, March 19, 1903.

Prolapse of rectum; rectopexy. *Boston Medical and Surgical Journal*, March 19, 1903.

Hydronephrosis; operation; cure. *Boston Medical and Surgical Journal*, March 19, 1903.

Intestinal obstruction following operation for appendicitis; operation; recovery. *Boston Medical and Surgical Journal*, July 23, 1903.

Needle in knee-joint; joint opened and needle removed. *Boston Medical and Surgical Journal*, July 23, 1903.

Adhesion of fallopian tube to appendix; removal. *Boston Medical and Surgical Journal*, July 23, 1903.

Abdominal injury without external signs. *Boston Medical and Surgical Journal*, July 23, 1903.

Dr. GEORGE W. GAY.

The diagnosis and treatment of hemorrhoids. *International Clinics*, Vol. II, Series 13, Philadelphia.

Obscure fractures in the vicinity of joints. *Transactions of New Hampshire Medical Society*, 1903.

Dr. GEORGE H. MONKS.

The normal appendix; its length, its mesentery, and its position or direction, as observed in six hundred and fifty-six autopsies. (With Dr. J. B. BLAKE.) *Boston Medical and Surgical Journal*, November 27, 1902.

A case of acute pancreatitis and necrosis of fat tissue. (With Dr. DAVID D. SCANNELL.) *Boston Medical and Surgical Journal*, January 22, 1903.

Dr. F. S. WATSON.

Some observations upon the value of the "Phloridzin Test" for estimating the functional capacity of the kidneys; renal sufficiency. (With Dr. W. T. BAILEY.) *Boston Medical and Surgical Journal*, December 4, 1902.

Subparietal injuries of the kidney. *Boston Medical and Surgical Journal*, July 9 and July 16, 1903.

Dr. R. W. LOVETT.

Round shoulders and faulty attitude; a method of observation and record, with conclusions as to treatment. *Boston Medical and Surgical Journal.*

The occurrence of painful affections of the feet among trained nurses. *American Medicine.*

Clinical observations on backache. *New York Medical Journal.*

Flat foot in infants and children. *Journal of the American Medical Association.*

The element of torsion in lateral curvature of the spine; its place in the cause and treatment. *Boston Medical and Surgical Journal.*

A frame for the application of plaster of paris jackets in Pott's Disease. *American Medicine.*

Rotation in lateral curvature. *New York Medical Journal.*

The diagnosis of hip disease; an analysis of ninety-five cases. *Boston Medical and Surgical Journal.*

Dr. JOHN C. MUNRO.

External urethrotomy from the standpoint of the general surgeon. *Journal of the American Medical Association*, October 25, 1902.

A case of death from the status lymphaticus following cholecystotomy. *Transactions New York Academy of Medicine*, December, 1902.

Surgical treatment of hemorrhagic pachymeningitis. *Medical and Surgical Reports, Boston City Hospital*, Series XIII, and *Chicago Medical Record*, October and December, 1902.

The clinical diagnosis of typhoid perforation. *Boston Medical and Surgical Journal*, February 5, 1903.

The surgical treatment of gastric ulcer. *Boston Medical and Surgical Journal*, August 20, 1903.

The significance of albumin and casts in surgical patients. *Medical News*, September 12, 1903, and *Transactions American Surgical Association*, 1903.

Dr. E. G. BRACKETT.

The school in its effect upon the health of girls. *Boston Medical and Surgical Journal*, April 10, 1902.

Dr. PAUL THORNDIKE.

The present status of the surgery of the prostate gland. *Transactions Massachusetts Medical Society*, and *Boston Medical and Surgical Journal*, August 13, 1903.

Dr. **James G. Mumford.**

The teaching of clinical surgery at Harvard University. *Medical Alumni Quarterly*, 1902.

John Collins Warren. *Bulletin Johns Hopkins Hospital*, 1903.

A narrative of medicine in America. J. B. Lippincott Co., 1903.

Present problems. *Lakeside Hospital Report*, 1903.

Clinical talks on minor surgery. Old Corner Book Store, 1903.

Operation for repair of the pelvic floor. *American Journal of Medical Sciences*, 1903.

Dr. **John Bapst Blake.**

Observations upon long distance runners. Edited with Dr. Ralph Larrabee.

A preliminary report of five cases of decapsulation of the kidney. Read before the Suffolk District Medical Society, April, 1903.

Dr. **F. B. Lund.**

Congenital anomalies of the phalanges, with report of cases studied by skiagraphy. *Boston City Hospital Report*, Thirteenth Series.

Six cases of rupture of the intestine, with four recoveries. (With E. H. Nichols, M.D., and J. T. Bottomley, M.D.) *Boston City Hospital Report*, Thirteenth Series, December 1, 1902.

A case of interscapulo-thoracic amputation for sarcoma of the brachial plexus. *Boston Medical and Surgical Journal*, April 16, 1903.

The value of enterostomy in selected cases of peritonitis. *Journal of the American Medical Association*, July 11, 1903.

Dr. **J. T. Bottomley.**

A case of acute, multiple, non-traumatic osteomyelitis occurring in an adult. *Journal of the American Medical Association*, August, 1903.

Dr. **E. A. Codman.**

The use of the X-ray in Surgery. *Bulletin Johns Hopkins Hospital*, May, 1903.

Dr. **R. B. Greenough.**

The surgical treatment of cirrhosis of the liver. *American Journal of Medical Sciences*, December, 1902.

Dr. **Hugh Cabot.**

A case of suture of the ureter; recovery without leakage. *Boston Medical and Surgical Journal*, December 11, 1902.

Dr. **H. L. Burrell.**

Surgical Tuberculosis. *Transactions Massachusetts Medical Society*, June 10, 1903.

The teaching of surgery. *Boston Medical and Surgical Journal*, October 23 and October 30, 1902.

Dr. F. J. Cotton.

Brachial paralysis, post-narcotic. (With Dr. S. Waller.) *Boston Medical and Surgical Journal*, May 7, 1903.

Requirements for school desks. *Annual Regulations of Schoolhouse Commissioners*, Appendix IX.

Dr. E. H. Nichols.

Acute infectious osteomyelitis; its pathology and treatment. (Now in press. To appear as a monograph in *The Journal of the American Medical Association.*)

Under the direction of the Committee in charge of research work in surgery, composed of Drs. Burrell, Nichols, and Greenough, there were published in *The Journal of Medical Research* the following contributions to surgical research, forming the first of a series of bulletins of original work in Surgery: —

Hodgkin's Disease; a pathological analysis of nine cases. (With two plates.) Dr. C. C. Simmons.

Chronic cystic mastitis; a study of thirty cases. (With three plates.) Drs. R. B. Greenough and H. F. Hartwell.

Bacteriology of the fibrinous exudate in septic peritonitis. (With two plates.) Dr. T. J. Manahan.

Transplantation of arteries. (With one plate.) Dr. J. C. Hubbard.

The effect of X-rays on living tissue. (With three plates.) Dr. S. W. Allen.

Hygiene. — The research on the toxic substances of respired air, begun by Dr. Walker and continued by Dr. Strong, was brought to a close during the year.

Drs. Harrington and Walker investigated the germicidal action of alcohol in various concentrations, using cultures of pathogenic organisms of varying degrees of resistance as tests. They also studied the reaction time of corrosive sublimate, in solutions such as are commonly used, against pathogenic organisms.

Dr. Harrington investigated the action of sodium sulphite in the system. This work formed the basis of a paper which was presented by him at the Eleventh International Congress of Hygiene and Demography, at Brussels, to which meeting he went as a delegate from the United States Government, and also from the Harvard Medical School.

During the year the following publications were made: —

Practical Hygiene. Second edition, revised and enlarged. By Dr. Charles Harrington. Lea Brothers & Company, pp. 760.

Progress in Hygiene. By Dr. Charles Harrington. *Progressive Medicine*, Vol. IV, pp. 38.

Antidotes. By Dr. CHARLES HARRINGTON. *Wood's Reference Handbook of the Medical Sciences.*

Poisons. By Dr. CHARLES HARRINGTON. *Wood's Reference Handbook of the Medical Sciences.*

The composition and alcoholic content of certain proprietary foods for the sick. By Dr. CHARLES HARRINGTON. *The Boston Medical and Surgical Journal*, March 12, 1903.

The reaction time of corrosive sublimate in different dilutions against various species of bacteria. By Drs. CHARLES HARRINGTON and D. H. WALKER. *The Boston Medical and Surgical Journal*, April 23, 1903.

The germicidal action of alcohol. By Drs. CHARLES HARRINGTON and D. H. WALKER. *The Boston Medical and Surgical Journal*, May 21, 1903.

The physical chemistry of milk. By Dr. L. J. HENDERSON. *The Journal of Medical Research*, July, 1903.

Neurology.—The most important change in the work of the department during the year was the thorough use of the "case system" of teaching, *i. e.*, the supplementing of the examination of patients by the discussion of carefully described and systematically arranged cases, furnished the student in a printed form, for study outside the class-room. No regular text-book was used, but the students were advised as to what books should be consulted for reference. Certain defects showed themselves in the system as adopted, and in the next year a few preliminary lectures will be given, and fewer cases will be given out for study. Nevertheless, in spite of criticisms, which were sought and obtained, and in spite of the fact that some of the students did not feel that they were being taught systematically enough, the examination paper, which was an especially difficult one, was dealt with better than any of its predecessors.

Dermatology.—The only change in the department during the year was the substituting of clinical section work for didactic lectures during the second half of the third year. The result was very gratifying.

Museum.—In view of the approaching change of buildings, there has been no attempt at any extensive rearrangement, and, on account of the crowded condition, only the most valuable specimens have been preserved. The regular cataloguing and routine work has been carried on as usual.

The specimens have been extensively used both by the instructors in their regular lectures, and by others, for the illustration of medical works.

The number of lantern slides has been very largely increased the past year, especially in the department of pathology and orthopedics.

The Scholarships and Fellowships were awarded as follows: —

Barringer Scholarship, No. 1,	C. L. Overlander, Ph.B.,	2d Class.
Isaac Sweetser Scholarship,	W. C. Woodward, B.L.,	3d "
Claudius M. Jones "	B. E. Sibley, A.B.	2d "
Hilton "	G. S. Amsden, A.B.,	2d "
" "	E. H. Place,	3d "
Barringer " No. 2,	L. G. Beeley, A.B.,	3d "
Alfred Hosmer Linder Scholarship,	L. S. Beals, A.B.,	3d "
Eveleth "	S. J. Beach, A.B.,	2d "
" "	H. B. C. Riemer,	3d "
" "	L. Arkin, S.B.,	3d "
Edward Wigglesworth "	C. H. Staples, A.B.,	3d "
Charles B. Porter "	R. S. Stearns, S.B.,	2d "
Faculty "	A. W. Foss, A.B.,	3d "
" "	G. T. Spicer, A.M.,	4th "
" "	J. Stanton, Ph.G.,	4th "
" "	W. L. Sargent, A.B.,	4th "
John Thomson Taylor "	D. Robinson, A.B.,	2d "
Lucius F. Billings "	C. W. Eveleth, S.B.,	4th "
Orlando W. Doe "	W. L. Barnes, A.B.,	3d "
Charles Pratt Strong "	T. Ordway, A.M.,	2d "
David Williams Cheever "	A. H. Crosbie (H.C.Senior),	1st "
Lewis and Harriet Hayden " (½)	M. L. Barker, A.B.,	1st "
" " " " " (½)	J. G. Trimble, Jr., A.B.,	1st "
John Foster Fund (½)	H. W. Godfrey, A.B.,	1st "
" " " (½)	C. H. Holt, A.B.,	1st "
Cotting Gift,	H. L. Smith,	4th "

The George Cheyne Shattuck Fellowship was awarded Elliott P. Joslin, M.D., for work on acid intoxication in diabetic coma.

The John Ware Fellowship was awarded Joseph H. Pratt, M.D., for clinical study of blood pressure in various pathological conditions.

The Charles Eliot Ware Fellowship was awarded Henry A. Christian, M.D., for work on neuroglia tissue and ependymal epithelium in teratoid tumors, and the fats of pneumonic exudations.

No essay was submitted for the William H. Thorndike prize.

The Boylston Medical prize was awarded R. M. Yerkes, Ph.D., for an essay entitled "An experimental study of the reactions of the medusa gonionema to photic and electric stimuli."

The statistics of the School will be found in the following tables: —

COURSES OF INSTRUCTION, 1902–03.

	Students examined.
FIRST YEAR.	
Anatomy. — Professor T. Dwight, Associate Professor Dexter, Demonstrator Warren, Assistant Young, Assistant Whiteside, Assistant Mosher, Assistant Davis, Assistant Allen, Assistant Butler, Assistant Marcy, Assistant Stetson.	82
Physiology. — Professor H. P. Bowditch, Associate Professor W. T. Porter, Asst. Professor Cannon, Austin Teaching Fellow Maxwell.	99
Histology and Embryology. — Professor Minot, Assistant Donoghue, Assistant Larrabee, Assistant Emerson, Instructor Bremer, Instructor Lewis, Austin Teaching Fellow Tyzzer.	75
Physiological and Pathological Chemistry. — Professor Wood, Associate Professor Hills, Instructor Hewes, Instructor Emerson, Assistant Alsberg.	78
SECOND YEAR.	
Bacteriology. — Professor Ernst, Assistant Denny, Assistant Page, Assistant Perry, Assistant Robey, Assistant Everett, Assistant Sanborn, Austin Teaching Fellow Frothingham.	77
Advanced Anatomy. — Professor T. Dwight, Associate Professor Dexter.	89
Pathology and Pathological Anatomy. — Professor Councilman, Associate Professor Mallory, Instructor Taylor, Instructor Wright, Instructor Christian, Instructor Nichols, Assistant Magrath, Assistant Williams.	73
Comparative Pathology. — Professor T. Smith, Instructor Christian, Assistant Magrath, Assistant Williams.	
Clinical Chemistry. — Professor Wood, Instructor Hewes, Assistant Connolly, Assistant Musgrave.	77
Therapeutics. — Asst. Professor Pfaff, Assistant Jordan, Assistant Vejux-Tyrode.	106
Theory and Practice. — Instructor Cutler, Assistant Stone, Assistant Joslin, Assistant White, Assistant Badger, Assistant Pratt.	
Clinical Medicine. — Asst. Professor Sears, Instructor Vickery, Assistant Bartol, Assistant Prescott, Assistant J. M. Jackson, Assistant Ames, Assistant Cabot.	
Surgery. — Asst. Professor Burrell, Instructor C. A. Porter, Instructor Nichols, Assistant Lothrop.	
THIRD YEAR.	
Theory and Practice of Medicine. — Professor Fitz, Instructor Cutler, Assistant Stone, Assistant Joslin, Assistant White, Assistant Badger, Assistant Pratt.	143
Obstetrics. — Professor W. L. Richardson, Asst. Professor C. M. Green, Instructor Higgins, Assistant Newell, Assistant Swain, Assistant Friedman.	143
Clinical Obstetrics. — Professor W. L. Richardson, Asst. Professor C. M. Green, Instructor Higgins, Assistant Newell, Assistant Swain, Assistant Friedman.	

Dermatology. — Asst. Professor Bowen. 147

Diseases of the Nervous System. — Professor Putnam, Assistant Waterman. 147

Pediatrics. — Professor Rotch, Asst. Professor McCollom, Instructor Buckingham, Assistant Craigin, Instructor Morse, Assistant Ladd. 140

Psychiatry. — Instructor Cowles. 142

Gynaecology. — Asst. Professor Davenport, Instructor Haven, Assistant Storer, Assistant Newell, Assistant Young. 146

Surgery and Clinical Surgery. — Professor Warren, Professor C. B. Porter, Associate Professor M. H. Richardson, Asst. Professor Burrell, Lecturer Gay, Instructor Thorndike, Instructor Munro, Instructor Nichols, Assistant Blake, Lecturer Beach, Lecturer Elliot, Instructor Monks, Assistant Lund, Assistant Bottomley, Assistant Scudder, Assistant Mumford, Assistant Brewster, Assistant Codman, Assistant Balch. 140

Clinical Medicine. — Professor Shattuck, Asst. Professor Sears, Instructor Withington, Instructor Vickery, Instructor Jackson.

FOURTH YEAR.

Clinical Surgery. — Professor C. B. Porter, Associate Professor M. H. Richardson, Asst. Professor Burrell, Instructor Monks, Assistant Lund, Assistant Scudder, Assistant Mumford, Assistant Cobb, Assistant Bottomley, Instructor Munro, Assistant Lothrop, Instructor Thorndike, Instructor C. A. Porter, Assistant Greenough. 114

Clinical Medicine. — Professor Shattuck, Asst. Professor Sears, Asst. Professor McCollom, Assistant R. C. Cabot, Instructor Withington, Instructor H. Jackson. 187

Ophthalmology. — Professor Wadsworth, Instructor Standish, Assistant Jack, Assistant Clap, Assistant Quackenboss, Assistant Spalding. 189

Otology. — Professor Blake, Professor J. O. Green, Assistant Hammond. 184

Laryngology. — Instructor DeBlois, Instructor Farlow, Instructor Coolidge. 187

Legal Medicine. — Professor Draper, Instructor E. W. Dwight. 134

Syphilis. — Instructor Post, Assistant C. M. Smith. 186

Orthopedics. — Associate Professor Bradford, Assistant Lovett, Assistant Goldthwait, Assistant Brackett, Assistant Dane. 99

Hygiene. — Asst. Professor Harrington. 141

Psychiatry. — Instructor Cowles, Instructor Lane.

Genito-Urinary Surgery. — Lecturer Watson, Instructor Thorndike.

Municipal Sanitation. — Lecturer Durgin.

Fourth Year Electives.

Ophthalmology. — Professor Wadsworth. 7

Otology. — Professor Blake, Professor J. O. Green, Assistant Hammond, Assistant Crockett. 4

Dermatology. — Asst. Professor Bowen, Instructor C. J. White. 49

Diseases of the Nervous System. — Professor Putnam, Instructor Walton, Instructor Knapp. 7

Gynaecology. — Asst. Professor C. M. GREEN.	25
Operative Obstetrics.—Asst. Professor C. M. GREEN, Instructor HIGGINS, Assistant NEWELL, Assistant SWAIN, Assistant FRIEDMAN.	64
Operative Surgery. — Professor C. B. PORTER, Assistant MIXTER, Instructor MUNRO, Instructor MONKS, Assistant SCUDDER, Assistant MUMFORD, Assistant BLAKE, Assistant LUND, Instructor C. A. PORTER, Assistant BREWSTER, Assistant COBB, Assistant H. CABOT, Assistant LOTHROP, Assistant BOTTOMLEY, Assistant CODMAN, Assistant GOULD, Assistant FAULKNER.	78
Bacteriology. — Professor ERNST, Assistant DENNY, Assistant PERRY, Assistant PAGE, Assistant ROBEY.	1
Orthopedics. — Associate Professor BRADFORD.	25
Clinical Microscopy. — Curator WHITNEY.	12
Clinical Chemistry. — Professor WOOD, Instructor HEWES, Instructor EMERSON.	2
Anatomy. — Associate Professor DEXTER.	19
Embryology. — Professor MINOT, Instructor LEWIS.	2
Physiological Chemistry. — Asst. Professor PFAFF.	2
Comparative Etiology of Infectious Diseases. — Professor T. SMITH.	4

TABLE I. — GENERAL STATISTICS OF THE SCHOOL.

New matriculants . . .	83	Graduates in Medicine	0
		Undergraduates	83

The whole number of students in attendance: —

In courses for graduates	41
Fourth Class	101
Third Class	127
Second Class	115
First Class	89
Total	473

Applicants for Degree	135
Rejected	21
Graduated	114

Of the 114 students who received the degree of Doctor of Medicine, 21 received the degree *cum laude*.

	SUMMER COURSES.					GRADUATE COURSES.				
	1899.	1900.	1901.	1902.	1903.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.
Courses taken .	142	167	151	145	188	134	63	40	30	57
Students	116	149	126	130	148	50	46	29	25	41
Receipts	$3895	$4695	$4275	$4400	$5280	$2861.25	$1465	$1065	$700	$1400

TABLE II.—FINAL EXAMINATIONS.

		First Class.										Second Class.									
		Histology.		Bacteriology.		Physiolog. and Path. Chemistry.		Anatomy.		Physiology.		Clinical Chemistry.		Path. Anatomy.		Adv. Anatomy.		Therapeutics.		Bacteriology.	
			%		%		%		%		%		%		%		%		%		%
1899	Passed	124	15	118	18	117	19	117	27	115	25	113	6	109	20	105	14	83	38		
	Rejected	22		27		28		43		39		7		28		18		51			
	Total	146		145		145		160		154		120		137		123		134			
1900	Passed	146	9			129	12	113	9	116	23	133	10	148	8	110	22	109	36		
	Rejected	14				18		12		35		15		5		32		62			
	Total	160				147		125		151		148		153		142		171			
1901	Passed	141	13			147	17	143	15	126	30	123	9	122	5	88	37	89	40	95	18
	Rejected	24				31		26		52		12		7		52		60		21	
	Total	165				178		169		178		135		129		140		149		116	
1902	Passed	71	9			64	16	71	20	68	16	128	15	143	11	140	16	108	38	135	12
	Rejected	7				12		18		13		23		17		27		68		19	
	Total	78				76		89		81		151		160		167		176		154	
1903	Passed	70	7			71	3	72	12	66	33	68	12	58	20	66	26	67	37	68	12
	Rejected	5				2		10		83		9		15		23		39		9	
	Total	75				73		82		99		77		73		89		106		77	

TABLE II. — FINAL EXAMINATIONS, CONTINUED.

	Third Class.															
	Theory and Practice.		Surgery.		Obstetrics.		Pediatrics.		Dermatology.		Gynaecology.		Neurology.		Psychiatry.	
		%		%		%		%		%		%		%		%
1899																
Passed	118		119		110		93		116		118		118		105	
Rejected	8	6	8	6	21	16	49	34	21	15	7	5	9	7	18	14
Total	126		127		131		142		137		125		127		123	
1900																
Passed	118		116		116		129		114		120		119		115	
Rejected	7	6	5	4	12	9	10	7	13	10	0	0	7	5	8	6
Total	125		121		128		139		127		120		126		123	
1901																
Passed	132		126		129		136		109		128		125		129	
Rejected	8	6	5	4	9	6	2	1	30	22	7	5	12	9	9	6
Total	140		131		138		138		139		135		137		138	
1902																
Passed	111		110		111		120		113		117		116		116	
Rejected	10	8	5	4	11	9	3	2	19	14	6	5	7	5	11	8
Total	121		115		122		123		132		123		123		127	
1903																
Passed	137		132		121		128		131		130		139		136	
Rejected	6	4	8	6	22	15	12	9	16	11	16	11	8	6	6	4
Total	143		140		143		140		147		146		147		142	

	Fourth Class.																	
	Clinical Medicine.		Clinical Surgery.		Ophthalmology.		Otology.		Laryngology.		Legal Medicine.		Syphilis.		Orthopedics.		Hygiene.	
		%		%		%		%		%		%		%		%		%
1899																		
Passed	117		119		104		120		129		123		123		100		90	
Rejected	16	12	7	5	20	16	2	2	0	0	0	0	1	1	0	0	38	29
Total	133		126		124		122		129		123		124		100		128	
1900																		
Passed	115		117		110	12	115	1	114		119		121		88		113	
Rejected	9	7	2	1	16		1		5	4	0	0	1	1	0	0	18	13
Total	124		119		126		116		119		119		122		88		131	
1901																		
Passed	111		120		108		114		117		121		120		71		116	
Rejected	10	8	2	2	10	8	0	0	0	0	0	0	0	0	0	0	12	9
Total	121		122		118		114		117		121		120		71		128	
1902																		
Passed	131		129		121		131		137		132		135		98		124	
Rejected	6	4	0	0	18	13	3	2	0	0	2	1	1	1	1	1	17	12
Total	137		129		139		134		137		134		136		99		141	
1903																		
Passed	109		114		112		113		115		116		118		92		111	
Rejected	8	7	0	0	6	5	2	2	3	3	3	3	0	0	0	0	12	10
Total	117		114		118		115		118		119		118		92		123	

TABLE II.—FINAL EXAMINATIONS, CONTINUED.

FOURTH CLASS.—ELECTIVES.

	Ophthalmology.	%	Otology.	%	Gynaecology.	%	Dermatology.	%	Neurology.	%	Operative Obstetrics.	%	Operative Surgery.	%
1899														
Passed	6		7		16		57		9		38		88	
Rejected	1	14	0	0	1	6	5	8	5	35	3	7	6	6
Total	7		7		17		62		14		41		94	
1900														
Passed	3		4		11		54		5		59		81	
Rejected	0	0	0	0	0	0	3	5	1	17	0	0	7	8
Total	3		4		11		57		6		59		88	
1901														
Passed	3		3		33		32		13		56		71	4
Rejected	0	0	0	0	0	0	4	11	2	13	1	2	3	
Total	3		3		33		36		15		57		74	
1902														
Passed	6		1		14		64		7		87		79	
Rejected	0	0	0	0	1	7		6	2	22	11	11	2	2
Total	6		1		15		68		9		98		81	
1903														
Passed	7		4		25		47		7		64		78	
Rejected	0	0	0	0	0	0	2	4	0	0	0	0	0	0
Total	7		4		25		49		7		64		78	

	Bacteriology.	%	Orthopedics.	%	Clinical Microscopy.	%	Clinical Chemistry.	%	Anatomy.	%	Physiology.	%	Embryology.	%	Hygiene.	%	Physiolog. Chemistry.	%	Comparative Etiology of Infectious Diseases.	%	Histology of the Nervous System.	%
1899																						
Passed	18		25		4		7		10				1		8		3		2			
Rejected	2	1	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0		
Total	20		25		4		7		10				1		8		3		2			
1900																						
Passed	6		40		5		4		12		1		1				2		4		2	
Rejected	0	0	3	7	0	0	0	0	2	14	0		0	0			0	0	0	0	0	0
Total	6		43		5		4		14		1		1				2		4		2	
1901																						
Passed	10		50		10		3		20		2		2		1		1		2		2	
Rejected	2	17	0	0	0	0	0	0	0	0	0	0	1	33	0	0	0	0	0	0	0	0
Total	12		50		10		3		20		2		3		1		1		2		2	
1902																						
Passed	5		37		7		3		14				1		5		3		2		1	
Rejected	0	0	1	2	1	12	0	0	0	0			1	50	0	0	0	0	0	0	0	0
Total	5		38		8		3		14				2		5		3		2		1	
1903																						
Passed	1		25		12		2		19				2				2		4			
Rejected	0	0	0	0	0	0	0	0	0	0			0	0			0	0	0	0		
Total	1		25		12		2		19				2				2		4			

The number of new matriculants (83) showed a gain of seventeen over the previous year. The comparison of scholarship attained by the different classes since the requirement of a degree for admission has been in force proves the wisdom of the step taken, so far as the qualifications of the future graduate is concerned.

The increase in the number of men taking graduate courses was very marked, the receipts being double that of the previous year, and the number of graduates attending the courses showed an increase of sixty-four per cent.

The summer courses showed also a decided gain in the number of students and of the courses taken.

WILLIAM L. RICHARDSON, *Dean.*

THE DENTAL SCHOOL.

To the President of the University: —

Sir, — As Dean of the Dental School I herewith submit the following report for the academic year 1902–03.

The number of students enrolled was 112, divided as follows: —

Third-year students	40
Second-year students	26
First-year students	44
Post-graduates	2
	112

There were thirty-three candidates for the degree, six of whom failed in final examinations, leaving a graduating class of twenty-seven, five of whom received the degree *cum laude*.

The courses of instruction were as follows: —

Anatomy. — Professor T. Dwight, Associate Professor Dexter, Demonstrator Warren, Assistants Allen, Mosher, Young, Butler, Marcy, Whiteside, Davis, Stetson. 424 hours.

Physiology. — Professor H. P. Bowditch, Associate Professor W. T. Porter, Instructor Cannon. 348 hours.

Histology and Embryology. — Professor Minot, Assistants Emerson, Donoghue, Larrabee, Instructors Bremer, Lewis, Austin Teaching Fellow Tyzzer. 252 hours.

Physiological, Pathological and Dental Chemistry. — Professor E. S. Wood, Associate Professor Hills, Assistants Connolly, Musgrave, Alsberg, Smith, Instructors Hewes, Emerson. 308 hours.

Bacteriology. — Professor H. C. Ernst, Assistants Page, Denny, Robey, Perry, Everett, Johnson, Austin Teaching Fellow Frothingham. 160 hours.

Materia Medica and Therapeutics. — Professor E. C. Briggs, 32 lectures; Assistant Rodgers, 32 recitations.

Dental Pathology. — Professor C. A. Brackett. 32 lectures.

Neurology. — Instructor E. W. Taylor. 4 lectures.

Crown and Bridge Work and Metallurgy. — Assistant Professor Cooke. 32 lectures.

Surgical Pathology and Surgery. — Professor Warren, Assistant Professor Burrell, Instructor Monks. 18 lectures.

Mechanical Dentistry and Orthodontia. — Professor E. H. Smith. 32 lectures.

Orthodontia. — Professor E. H. Smith, 32 clinics; Assistant Baker, 64 hours.

Mechanical Dentistry. — Clinical Instructor J. D. Dickinson. 8 clinical lectures.

Mechanical Dentistry. — Clinical Lecturer Stoddard. 16 lectures and demonstrations.

Mechanical Dentistry, laboratory, Juniors. — Demonstrator Cross, Assistant Demonstrator Chase. 544 hours.

Mechanical Dentistry, laboratory, Seniors. — Demonstrator Cross, Instructors Hayden, Eldred, Burnham, Grant, Chute, Parsons, J. W. Dickinson. 496 hours.

Operative Dentistry and Dental Jurisprudence. — Clinical Lecturer Clapp, 12 lectures; Instructor Starratt, clinical assistant.

Operative Dentistry and Oral Surgery. — Professor Thomas Fillebrown, 32 lectures.

Operative Dentistry. — Assistant Professor Potter. 32 lectures.

Operative Dentistry. — Clinical Instructor Werner. 13 lectures and demonstrations.

Operative Dentistry, infirmary, Juniors. — Assistant Demonstrator D. W. Dickinson, Instructors Wentworth, Estabrooks, Naylor, Elliott.

Operative Dentistry, infirmary, Seniors. — Demonstrator McMeekin, Instructors Taft, Eddy, Blaisdell, Bradley, Holmes, Perkins, Paul, Gray, Farrington, Harding. 624 hours.

Mechanical Treatment of Fractured Jaws and Cleft Palates, and other Deformities. — Demonstrator Cross. 15 lectures.

Extracting and Anaesthesia (Demonstrations). — Instructors Hart, Squarebriggs. 160 afternoons.

The following tables show the work done in the infirmary and laboratory during the year: —

OPERATIVE DEPARTMENT.

Surgical clinics by Professor Fillebrown.

Necrosis	Number of cases		8
Abscess	“	“	15
Antrum disease	“	“	5
Epulis	“	“	3
Hare lip	“	“	3
Cleft palate	“	“	7
Re-implantation	“	“	1
Impacted Lower Third Molars removed	“	“	3
Dislocation of Tempro-Maxillary Articulation	“	“	1
United Fracture	“	“	2

INFIRMARY.

No. of patients treated	7,895
“ “ “ for diseases of teeth and gums	2,501
“ sets of teeth cleaned	1,107
“ operations	19,116
“ fillings — gold	2,937
“ “ amalgam	1,852
“ “ cement	1,482
“ “ gutta percha	3,293
“ porcelain inlays	15

MECHANICAL DENTISTRY.

SERVICE TO PATIENTS.

No. of sets of artificial teeth	279
“ “ “ “ repaired	118
“ appliances for fractured jaws	40
“ splints for cleft palate operations	2
“ obturators and appliances for cleft palates	11
“ artificial nose	1
“ plug for antrim	1

PRACTICE WORK.

No. of sets of artificial teeth	122
“ splints for fractured jaws	19
“ vulcanite plates repaired	14
“ “ “	127

Under the direction of Professor **SMITH**: —

No. of cases of irregularity treated and corrected	92
“ appliances	177
“ articulated models of regulating cases	134
“ regulating appliances	141

Under the direction of Asst. Professor **COOKE** and Dr. **ELDRED**: —

SERVICE TO PATIENTS.

No. of crowns and caps	154
“ “ “ repaired	29
“ pieces of bridge work	35
“ “ “ repaired	12
“ porcelain inlays	14
“ “ tips	1

PRACTICE WORK.

No. of crowns and caps	177
“ bridges	201
“ porcelain inlays	32
“ carved teeth models	32

On January 6, 1903, dental service was established, by request of the management, in the House of the Good Samaritan. The cost of equipment was met by the hospital authorities. The service was given by the School. Dr. M. F. Rogers was appointed as instructor to superintend the work, and senior students in the School were detailed, in sections of two each week, to go to the hospital and assist him in the care of the teeth of the patients. This service has been most satisfactory both to the hospital and the School. It has provided free dental service to these deformed and crippled children and been an excellent training school for our students in the handling of children when undergoing dental operations.

The number of patients treated in this service was . . .	54
The number of operations was	75

During the summer vacation the infirmary was kept open and 633 persons received dental treatment. Thirteen of these were cases of fractured jaws. The Emergency Corps gave treatment to 115 persons at their homes.

A change was made during the year in the chemistry course. Heretofore the course for dental students was the same as that given to the medical students, and consisted of lectures and laboratory work daily for sixteen weeks in physiological and pathological chemistry. The new scheme provided for dental chemistry during the greater part of the last eight weeks, in place of much of the work previously required in pathological chemistry. In this course special attention was given to the study of saliva and its influence in causing caries of the teeth, and also to the study of serumal calculi and its influence in causing Pyorrhea Alveolaris. This course also provided for research work for the more advanced students, and several availed themselves of the opportunity thus offered.

An N_2O and O apparatus was purchased during the year and has proved to be a valuable addition to the department of Operative Dentistry.

The School is much indebted to Mrs. George G. Crocker for a picture of the late Dr. Nathan C. Keep, who was the first Dean of the School, having held the office from 1868 to 1872.

As a result of strict economy and going without many things that the School really needed, the deficit for the last year has been reduced one-half from that of the preceding year.

The rapid increase of the number of persons who are really too poor even to pay the cost of medicine and materials, makes it quite impossible to maintain the infirmary properly without endowment.

EUGENE H. SMITH, *Dean.*

BUSSEY INSTITUTION.

To the President of the University: —

Sir, — I respectfully submit the following report on the Bussey Institution for the year 1902–03.

The whole number of students in attendance was thirty-seven, of whom twenty-nine, registered at the Bussey Institution, were students proper of Agriculture and Horticulture, devoted to professional studies in these branches, while eight were members of the school of Landscape Architecture at Cambridge, striving to gain some knowledge of horticulture by attending certain courses of instruction on this subject as given at the Bussey Institution.

The degree of Bachelor of Agricultural Science was conferred upon six candidates at Commencement.

Instruction was given throughout the year in Agriculture (including Cattle Breeding, Cattle Feeding, and Dairying), Horticulture, Agricultural Natural History, Mathematics and Surveying, Agricultural Chemistry and Chemical Analysis, by Messrs. Hersey, Watson, Morse, Shaughnessy, Dillingham, Robinette, and Storer.

One Bulletin of the Bussey Institution entitled "On the Occurrence of Mannan in the Wood of some kinds of Trees," by F. H. Storer, was published.

The crowded condition of the school building still calls urgently for relief.

F. H. STORER, *Dean.*

THE LIBRARY.

To the President of the University: —

Sir, — I beg to submit this my sixth annual report on the Library, covering the year 1902–03.

In the five reports which I have already had the honor to present, I have done my best to make clear the nature of the difficulties under which the work of the Library is now carried on, and the necessity of an enlargement in building and in staff which every year becomes more urgent. In presenting a sixth report, in which the same pressing need must necessarily claim the first place, I cannot do better than quote from the report of the Visiting Committee of the Overseers, submitted last May by Mr. Putnam, the Librarian of Congress, and I do this in order that the Committee's admirable and forceful statement of the Library's condition may by publication with your own annual report reach the general body of the alumni.

"Twenty years ago the library building was but barely adequate, even for the housing of the material: its facilities for administration and for use were imperfect. Since that date the collection has more than doubled in size, — its constituency, in the undergraduate department alone, has doubled in number; and the methods of instruction have tended towards increased direct use of books by the individual student. But the provisions in space and facilities have remained practically the same. The alterations in Gore Hall in the summer of 1895 modified certain space to new uses, but they added not a foot to the space itself. Large masses of material that should be active in use have been crowded off the shelves and relegated to mere storage in the cellar, or forced out of the building into inaccessible storage elsewhere. The administration is pinched into spaces in the aggregate less than a third of the size requisite for convenient and thorough work, and during certain seasons ill-ventilated; administrative processes which should be in close juxtaposition have had to be scattered in remote alcoves of the stacks themselves. From the ordering of books to the issue of books to the reader, there is not a single process which is not cramped for space and harassed in operation. The cataloguing is rendered unduly laborious by the want of shelving near at hand for the reference books which are its tools, and by the need of traversing public spaces in order to reach the large sections of the collection in Gore Hall; and imperfect from inability to consult the material in storage. The reclassification, the completion of which is essential to effectual use, the prompt completion of which is essential to the economic placing of new accessions, has had to be suspended altogether. The public catalogues still occupy the narrow space directly opposite the main doorway, where the inquirer must consult them standing, jostled by applicants for books and amid the disturbance of the issue work. And the issue desk, which is also the main reference desk, has still but the dimensions and facilities suited to a village library. For the accommodation of the manuscripts, of the bound newspapers, of the maps, of the art folios, — or for the exhibit of material, — there is no such provision as even the smallest library now deems necessary.

"The main reading-room, contrived by the alterations in Gore Hall, seats but half the number of readers who should be expected to be making use of it at one time in a University of the size of Harvard, and provides for each reader desk space that is both too shallow and too narrow for convenient study; while the room as a whole, though fairly lighted, has the aspect of makeshift; it lacks the large spaces conducive to meditative study, and is barren of the architectural beauty and dignity which in a great library can exercise a practical influence for good. For seminar study, for which every new college library now provides as a matter of course, there is not merely no present provision, but no possibility of a provision within the present building.

"These conditions are urgent beyond description and beyond longer endurance. They impede necessary growth, discourage use, and stifle administration. They are not unique. They have in some degree been experienced by other academic, indeed by most active libraries, at some stage of their career. They are due to growth in the collections which is inevitable, and increase in use which is alike inevitable and creditable. But while in other institutions adequate remedies have been applied, at Harvard they have not been applied; and the conditions there to-day are, so far as your Committee is aware, without parallel in any academic library in this country."

We wait for relief. Relief, it is evident, cannot come from any funds at present possessed by the President and Fellows, and I have never urged the adoption of any partial or temporary measures at the expense of the Corporation, feeling sure that it is best to wait, even at great inconvenience, for the time when well considered and far reaching plans for a general reorganization can be made. In the meantime, we make the best use we can of the means we have, and we are thankful that we have books — the richest and most valuable collection of books that exists in this country. That the day will surely come when we shall have an amply equipped and generously endowed building in which to use them I have no doubt. May that long looked for day come speedily! As the best way of preparing for it, I would call attention to the method adopted by the Museum of Fine Arts in Boston, which has before it a problem not unlike our own — the planning of a new building on a much larger scale and adapted to meet new demands. The heads of the several departments have been asked to report on the needs and the probable course of development of their respective departments, and at the same time a consulting architect has been appointed to advise in regard to the general character of new plans and the relation of one part to another. The questions connected with our new Library building have already been studied by the Committee appointed by the Corporation in December, 1901, which reported in March, 1902, and included in its report, beside the discussion of certain general questions of policy on which it had consulted members of the teaching staff, specific recommendations in regard to floor areas, shelving, seating capacity, rooms for special uses, etc. Further study of the subject is of course needed by the Library Council and the Library Staff, and an opportunity for suggestion and discussion must naturally be provided in the University Council, or by other means; but all such study and discussion will be more profitable if, as it is going on, we may have the services of a competent consulting architect, not for the purpose of making a final plan, but to advise in regard to certain preliminary questions, such as the practicability of retaining Gore Hall, or the possibility of adapting it to other uses (questions which only an architect can decide), and to embody in some concrete preliminary form the specifications presented by the Committee of 1901. We should then have something tangible upon which to work, and something which would appeal more directly to the generosity of possible benefactors. I hope the appointment by the Corporation in June of another special committee to advise it on certain fundamental questions is an indication that the Library's wants will be brought powerfully and persuasively before the graduates at an early day.

The need of additional endowment for administration is as urgent as the need of a new building. For five years the expenses of the Library have been held firmly down and not allowed to increase more than was absolutely necessary. The work to be done, however, has been rapidly growing, so that each year the staff becomes less adequate to deal with the work expected of it. With an enlargement of the building and the provision of new facilities for study, and with the enlargement of the staff required for current administration, for taking up again the work of re-classification, and for bringing up to date other work which has fallen behind, comes a large increase of expense. Funds which have been bequeathed to the Library for administration (not including purchase of books), with funds assigned to this purpose by the Corporation, now yield an income of about $29,000, and an additional $17,000 has to be contributed by the general College account to make up the $46,000 at present required for administration. It is highly desirable that the Library should be independent of the College financially, for it is the last few thousand dollars in its annual budget which are hardest for the College to supply, but are of most consequence in developing its activities. A million added to the endowment fund would doubtless make the Library thus independent of the College treasury for many years, and would be of enormous benefit both to the Library and to the College at large. I wish some generous lover of learning might be moved to make this ample provision for the Library on condition that the graduates of the College would unite in providing a building.

The possible separation of "live" and "dead" books — of books frequently in use and those seldom, if ever, consulted — a subject to which you called the attention of librarians a year ago in your address before the American Library Association, was one of the topics specially assigned for discussion at the last meeting of the Association, and references to the question are frequent in library reports and papers. That such a distinction is frequently desirable, and is often, in fact, more or less completely carried out, and that small libraries should relieve themselves in this way of the burden of carrying unprofitable books, is generally acknowledged. The point of most consequence, however, is the disposition of the "dead" books, — the way in which they are stored, and the freedom with which they can be had when wanted. I have tried to contribute to a clear understanding of the question by examining with some care the character of recent literary investigations made in this Library, in order to ascertain the conditions that seemed to be essential to the successful conduct of the investigation, and I summed up the results of my inquiry in a paper read before the American Library Association last July (Library Journal, August, 1903). The subjects of investigation were of the greatest variety, but whenever the student was endeavoring to follow out some line of inquiry not pursued before, to trace some connection hitherto undiscovered, or to collect material not already brought together (and the greater part of the work done by professors and students is of this kind), it was clear that personal access to a classified collection of all the books in one or more sections of the Library was required.

The question of division, therefore, becomes relatively unimportant, depending simply on special conditions of place and time.

The essentials to be preserved are three: *comprehensiveness*, so far as the individual library's resources extend; liberty of *personal access* to the books themselves on the part of advanced students; and *classification*, so that all the material of one kind can be found within a reasonable compass, and a serious waste of time be thus prevented. The saving of time is itself worth much, but more important is the fact that in many cases it would be practically impossible for the inquirer to learn from bibliographies or catalogue what books he needs, and to have them picked out and brought to him one by one. He must be able himself to glance over large numbers of books in certain fields, in order to light upon the particular facts or references he wants. The process is strictly comparable to a naturalist's search for specimens. He cannot tell beforehand precisely where he will find what he seeks; he only knows the general character of the surroundings in which he is likely to find what will reward his pains. Patient searching is required of the student of history or literature as of the student of nature, and such searching can be carried on to advantage in a library only if all its resources are arranged after some systematic order and are directly accessible to the inquirer.

Number 55 of the Bibliographical Contributions was issued early in the autumn. This is entitled "Descriptive and Historical Notes on the Library of Harvard University," and has been compiled by Mr. A. C. Potter, head of the ordering department. It is intended to give a general survey of the resources of the Library for the benefit of both our own students and scholars at a distance. It also presents interesting matter in regard to the history of the Library, such as a list of the more important gifts and bequests from 1638 to the present time, a list of the book funds and funds available for general purposes, a brief chronology of the Library, a list of the librarians, and a bibliography, containing a list of the official publications of the Library and of the more important publications relating to it. It has been printed at the expense of the Richard Manning Hodges Fund.

Capt. A. A. Folsom, of the Ancient and Honorable Artillery Company, has made a copy of a manuscript Orderly Book given to this Library in 1842. It was kept by Jeremiah Fogg, Adjutant of the Second New Hampshire regiment encamped on Winter Hill, Somerville, during the Siege of Boston, and covers the period from October 28, 1775, to January 12, 1776. This has been printed in successive numbers of the "Exeter News Letter," and is to be reprinted in separate form. Permission to make this use of the manuscript was given on condition that twenty-five copies of the reprint should be placed at our disposal to send to other libraries.

The accessions to the libraries of the University for the year, and the present extent of each are shown in the following table: —

Accessions.	Volumes added.	Present extent in	
		Volumes.	Pamphlets.
Gore Hall (College Library)	16,977	415,928	280,000
Law School	8,392	75,877	7,006
Divinity School	594	33,236	8,850
Medical School	36	2,388	. .
Dental School	55	701	8,076
Bussey Institution	80	4,380	12,000
Museum of Zoölogy	3,624	38,082	31,723
Peabody Museum	157	3,017	2,813
Astronomical Observatory	390	10,759	18,634
Gray Herbarium	430	8,442	6,595
Arnold Arboretum	700	9,602	. .
Twenty-eight Special Reference Libraries	2,331	37,243	. .
Total	33,766		
Deduct, transfers between Gore Hall and Department Libraries	506		
Total	33,260	639,655	375,697

Of the 16,977 volumes added to the Gore Hall collection, 7,731 came by purchase or exchange, 1,152 as the result of binding serial publications, and 736 by binding pamphlets separately, while the remainder, 7,358 volumes, were received by gift.

15,391 pamphlets have been received, 13,441 by gift, and 1,950 by purchase or exchange. 1,064 sheets of maps have been added to the map collection, which now numbers 21,256 sheets.

Dr. Malcolm Storer, the Curator of Coins, reports the addition of only 15 pieces to the numismatic collection. Of these, ten were bought and five given. Among those bought is the rare and interesting medal of Tristram Coffin and the silver medal of Prince Henry of Prussia by Brenner.

The total gifts to the College Library during the year 1902–03 and the previous five years have been as follows: —

GIFTS TO THE COLLEGE LIBRARY.	1897–98.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.
Volumes	2,646	7,096	11,360	4,749	4,648	7,358
Pamphlets	11,365	12,448	11,072	14,235	16,230	13,441
Totals	14,011	19,544	22,432	18,984	20,878	20,799

The year has been a remarkable one for the richness and variety of its gifts. Gifts in money for immediate use in specified directions have amounted to $4,461.12, while the total number of volumes received has been 7,358, a number only twice exceeded in earlier years.

To Mr. John Drew, of New York, we are indebted for the gift of the valuable dramatic library of the late Robert W. Lowe, of London, the dramatic historian and bibliographer, — a library rich in biographies of English actors, early dramatic periodicals, and the earlier histories of the stage, in books and pamphlets about particular theatres, and in the controversial works relating to the English stage, especially in the eighteenth century. The collection also contained many plays by little known dramatists, which, as Professor Baker remarks, are in some cases worth preservation for their own sakes, in others for the light they throw on the customs of the time, and in others because they help to make clear why the drama sank as low as it did, even while the stage flourished, between 1775 and 1885. These books, with what has been brought together during the last five years by the systematic purchase of early editions of the plays of the seventeenth and eighteenth centuries, give us the foundation for a collection of original material indispensable to the historian of the drama and the stage, and I hope we may be able in time to build up the collection on all sides. A gift of $300 a year for five years could be used to great advantage in this way, and would bring in a larger return now than it would ten years hence, since these books are rising in price.

Mr. James H. Hyde, who had bought the library left by Professor Bôcher, gave to this Library all Professor Bôcher's collections relating to Molière and Montaigne, specialties to which he had devoted himself through many years of assiduous collecting, and to these Mr. Hyde added all the early editions of the dramatists of Molière's time. The collection, numbering altogether about 2,500 volumes and pamphlets, forms a fitting memorial of Professor Bôcher, and, thanks to Mr. Hyde's generosity, has found the permanent abiding-place which its former owner eagerly desired for it. A special catalogue of the Molière collection is being prepared at Mr. Hyde's expense and will be printed as one of the Library's Bibliographical Contributions.

From Assistant Professor Coolidge we have continued to receive abundant additions to our collections on the Ottoman Empire, Morocco, China, and Slavic countries, subjects in which he has long been specially interested. Among the books on the Ottoman Empire are a number of incunabula and other rare books, including a collection of thirty Spanish pamphlets of the early seventeenth century giving contemporary notices of Turkish affairs.

The Hon. George von L. Meyer, the American Ambassador to Italy, kindly placed in Mr. H. N. Gay's hands 500 lire (about $100) to be spent for the Library on books on the Italian Risorgimento. Mr. Gay, who has been for some years a resident of Rome (but registered in our Graduate Department), and has a large historical library of his own, is specially familiar with the literature of modern Italian history and was able to lay out the money to the best advantage (sending us 286 volumes and 85 pamphlets). To this gift, supplemented by the gift of many pamphlets from Mr. Gay's own library, and to Mr. Gay's expert service in selection, we owe what is already beginning to be a notable collection on the Italy of the nineteenth century.

Mrs. Louis Bettmann, of Cincinnati, gave $300 to be spent at the Librarian's discretion in memory of her son, Milton Bettmann, of the Class of 1897, who died soon after graduating from the Medical School. Mr. A. C. White, 1902, of New York, repeated his former gift of $250 for Dante books, and the Dante Society added $150 to its previous gifts for the same purpose. From Mr. Harold J. Coolidge comes a third annual gift of $50 for books on China.

Mr. Edgar H. Wells, whose successful effort to collect subscriptions for the purchase of English literature of the eighteenth century was reported last year, has continued his interest in the subject, and we are indebted to him for an additional $435 to be spent in the same field.

Professor J. H. Gardiner, who in conducting his courses on the history of the English Bible has had occasion to regret the withdrawal some years ago of the Livermore Bibles, has undertaken to strengthen our collection in this department, and has obtained from friends several hundred dollars, of which $393 has already been spent for early editions of the English Bible and other translations which are of interest in connection with it.

Mr. and Mrs. Ira Atkinson, of Wakefield, have given to this Library and to the library of the Harvard Union, the books which belonged to their son, Dr. Roger T. Atkinson, of the Class of 1894, a graduate of the Harvard Medical School and an Assistant Surgeon in the United States Navy. Dr. Atkinson had bought books freely and intelligently and evidently enjoyed owning them. The more valuable portion of his library naturally went to the Harvard Union, being already duplicated in the College Library, but 273 volumes were added to our shelves.

Professor Norton, as the literary executor of James Russell Lowell, has placed in the Library a large collection of the letters received by Mr. Lowell from his numerous correspondents and a number of manuscripts of articles contributed to the North American Review during his editorship.

From Mr. Edward A. Silsbee we received by bequest another interesting Shelley manuscript to be preserved beside the earlier and more valuable manuscript book given by Mr. Silsbee some years ago.

Books and pamphlets from the families of Mrs. James Greenleaf of Cambridge, Mr. W. S. Appleton of Boston, Professor Bôcher, and Mr. John D. Sargent of New York have added to the value of our collections in many different directions. Mr. Archer M. Huntington has sent us copies of all his facsimile reproductions of rare books in his great Spanish library. To many other friends, both old and new, too numerous to name individually, we are indebted for constant remembrance.

A few of the more notable works received by gift or purchase I mention in detail, in order that other libraries may note their existence here and so be able to refer to this Library students who require them.*

Devonshire Association for the Advancement of Science, Literature, and Art. Report and transactions, 1862–1902. 34 vols.

Shropshire Archaeological and Natural History Society. Transactions, 1878–1902. 25 vols.

These two sets make the collection of English local historical societies accessible either in Boston or Cambridge nearly if not quite complete.

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* It has for some years been our custom to note in our official catalogue rare or expensive works which can be found in other libraries, so far as the reports of other libraries make mention of them. It would be well if libraries called attention to such acquisitions oftener than they do, and made a practice of recording in their own catalogues what can be found in their neighbors' collections.

Société de l'histoire de Paris et de l'Ile de France. Mémoires, 1875–1901. 28 vols.; Bulletin, 1892–1901. 10 vols.

The first fourteen volumes of the Mémoires were received in the Riant library.

Faculté des Lettres de Bordeaux. Annales, 1879–94. Continued as Revue des universités du Midi, 1895–98. 20 vols.

Société scientifique de Bruxelles. Annales, 1877–1902. 26 vols.

Almanach de Gotha. Several early years from 1792 to 1812, making our set complete from 1792, with the exception of the years 1803 and 1814–16.

Bayreuther Blätter, Monatschrift des Bayreuther Patronatvereines, 1878–1902. 25 vols.

Das Handels-Museum, 1886–1902. 35 vols.

Ymer; tidskrift utgifven af Svenska sällskapet för antropologi och geografi, 1881–1902. 22 vols.

Acta Sanctae Sedis, 1865–1901. 34 vols.

Actes et documents relatifs a l'histoire de la régéneration de la Roumanie, 1889–1901. Tome 1–9.

Brockhaus Encyclopaedia; the Russian edition, vols. 1–38 (in 75 vols.). A distinct work from the German edition, and containing much special matter on Russian affairs.

Rohault de Fleury. La Messe. Etudes archéologiques sur ses monuments. 1883–89. 8 vols.

Salmeron. Commentarii in evangelicam historiam, etc. Coloniae Agrippinae. 1612–13. 16 vols. in 10° folio.

Sousa. Historia geneàlogica da casa real portugueza desde a sua origem até o presente. Lisboa. 1735–49. [With "Provas" and index.] 20 vols. 4°.

Bibles: —

- Coverdale's New Testament of 1538. 2d edition.
- The Genevan Bible of 1560. 1st edition.
- The Bishops' Bible of 1572. The 2d folio.
- The Rhemish New Testament of 1582. 1st edition.
- The Rhemish New Testament of 1589, printed in London. With "the translation used in the Church of England, with a confutation of all such arguments," etc., by W. Fulke.
- The Douai Old Testament of 1609–10. 2 vols. 1st edition.
- Luther's Bible (German) of 1539 [1535–38].

All the above Bibles were bought with the money collected for this purpose by Professor Gardiner.

Armstrong, Sir Walter. Turner. 1902. Folio.

Baessler, Arthur. Ancient Peruvian Art. 1902–03. 4 vols. Folio.

Foster, J. J. The Stuarts. 1902. 2 vols. Folio. From Mrs. Bettmann.

Hauser y Menet. Tapices de la Corona de España. 1903. 2 vols. 135 photographic plates reproducing the ancient tapestries which have been collected from century to century by the Spanish kings.

Herrade de Landsberg. Hortus deliciarum. 1901. Folio. 90 plates. Reproductions of the illustrations in a famous religious manuscript of the 12th century.

Meyerbeer. Les Huguenots. Orchestra score. 4 vols.

National Portrait Gallery. London. [Photographs of all the portraits.] Edited by Lionel Cust. 2 vols. Folio.

Aristophanes. Facsimile of the Codex Venetus Marcianus 474. Published by the Archaeological Institute of America. 1902. Folio.

Addison. The campaign. 1705. 1st edition. Also the edition of 1710.

—— The drummer; or, The haunted house. 1716. 1st edition. Also 2d edition, 1722.

—— Rosamund, an opera. 1707. 1st edition.

Chaucer. Works. London. 1687. Folio.

Fielding. Amelia. 1752. 4 vols.

—— History of Tom Jones. 1749. 6 vols. 1st edition.

Shakespeare. Reproduction in facsimile of the first folio. With introduction by Sidney Lee. 1902.

Chap-books. A collection of 83 chap-books printed in London and Belfast, 1763–69, bound in 3 vols.

This collection was made by James Boswell, who writes on the fly-leaf of the first volume that, having retained an affection for such publications from early days, he went to the printing office in Bow Church Yard and bought this collection and had it bound up with the title of "Curious Productions."

Bought with interest from the Child Memorial Fund.

Chap-books. Another collection numbering 103 pieces, dating from 1770 to 1790, collected by Joseph Ritson, the antiquarian, and bound in 4 volumes.

Doni, Ant. Fran. I mondi. Vinegia. 1552–53. 2 vols. Many of the illustrations relate to passages of the Divina Commedia.

Paulus Florentinus. Quadragesimale de reditu peccatoris ad Deum. 1479. 1st edition. Prized because of its frequent citations of Dante and Petrarch.

These two the gift of Mr. A. C. White.

Hoe, Robert. Catalogue of [part of his library]; books by English authors who lived before 1700. 1903. Vols. 1 and 2.

A collection of pamphlets once owned by George Pitt, Baron Rivers, relating to English political affairs from 1760 to 1800, and formed during that period. 193 volumes and pamphlets.

Bought at auction with a portion of Mrs. Bettmann's gift.

SPECIAL REFERENCE LIBRARIES.

The present extent of these libraries is as follows: —

SPECIAL REFERENCE LIBRARIES.	Permanent.	On Deposit.	Totals.
1. Chemical Lab. *Boylston Hall*	621	971	1,592
2. Physical Lab. *Jefferson Phys. Lab.*	29	369	398
3. Botanical Lab. *University Museum*	586	124	710
4. Geological Lab. *Do.*	120	. .	120
5. Mineralogical Lab. *Do.*	500	230	730
6. Phys. Geography Lab. *Do.*	352	176	528
7. Zoölogical Lab. *Do.*	277	. .	277
8. Classics. *Harvard Hall 3*	3,677	147	3,824
9. History. *Harvard Hall R. R.*	2,289	17	2,306
10. United States History. *Harvard Hall R. R.*	881	8	889
11. Political Economy. *Do.*	1,235	1	1,236
12. Social Questions. *Do.*	867	6	873
13. Child Memorial (English). *Warren House*	4,357	90	4,447
14. Lowell Memorial (Romance). *Do.*	1,479	6	1,485
15. German. *Do.*	1,251	. .	1,251
16. French. *Do.*	2,480	. .	2,480
17. Sanskrit. *Do.*	918	23	941
18. Semitic. *Semitic Museum*	1,220	. .	1,220
19. Mathematics. *Sever 22*	449	80	529
20. Mining and Metallurgy. *Rotch Laboratory*	41	17	58
21. Engineering. *Pierce Hall*	6,049	519	6,568
22. Music. *Holden Chapel*	376	. .	376
23. Philosophy (Psychol. Lab.). *Dane Hall*	603	41	644
24. Education. *Lawrence Hall*	4,576	. .	4,576
25. Fine Arts (incl. Gray and Randall Coll.). *Fogg Museum*	870	. .	870
26. Architecture. *Robinson Hall*	916	13	929
27. Preachers' Library. *Wadsworth House*	94	. .	94
28. The Study. *Phillips Brooks House*	59	. .	59
29. Social Service Committee. *Phillips Brooks House*	71	. .	71
Totals	37,243	2,838	40,081

The reading-room for History, Economics, and Social Questions in Harvard Hall is seriously crowded, and better provision should be made as soon as possible. At an expense of about $800 the upper floor of Massachusetts Hall could be fitted over and would make an admirable reading-room for these large elementary courses in history and economics, the students in which courses use this reading-room almost exclusively. These courses are taken for the year just beginning (1903–04) by 2,986 men. A room with only 104 chairs, and crowded at that, is manifestly inadequate.

The largest additions have been in the libraries in German and Education, 714 volumes in one case and 382 in the other. The German library is being increased by a part of the Schlesinger bequest assigned to this use by the Corporation, and the Education library by means of special subscriptions made for this purpose and by gifts from publishers.

USE OF BOOKS IN THE COLLEGE LIBRARY.

The following table shows the use of books at Gore Hall in 1902–03 as compared with previous years: —

USE OF BOOKS.	1896–97.	1897–98.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.
1. Books lent	59,611	61,272	63,005	63,712	63,673	58,443	63,183
2. Used in the building . (Recorded use only.)	22,965	27,017	25,595	23,715	24,180	22,583	24,924
Totals	82,576	88,289	88,600	87,427	87,853	81,026	88,107
3. Over-night use of Harvard Hall Reading-room	9,288	11,938	12,046	13,460	13,566	13,594	13,164

The decline in 1901–02 in number of books lent, for which I found it difficult last year to assign a sufficient cause, I am now inclined to attribute to errors in the keeping of the account, the delivery desk having been served during a part of the year by a new attendant who was replaced by another after a few months' trial. It is true, nevertheless, as I pointed out in my last report, that loans from the College Library have a tendency to diminish with the growth and use of department and special reference libraries, with the increase and improvement of club libraries in general, and with more free access to the shelves in the College Library itself.

Of the constant use of the reserved books in the reading-room, and of the collections of reference books, periodicals, and United States documents, freely accessible to all, no record is possible.

The extent of these open collections and their growth is shown in the table on the opposite page.

The number of bound periodicals keeps about the same because the shelf room for them is limited, and as the collection receives its necessary yearly increase, one set after another has to be removed

OPEN COLLECTIONS.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.
Bound Periodicals	3,275	3,275	3,140	3,210	3,266
Reference Books	4,142	4,224	4,235	4,393	4,471
Reserved Books	8,344	10,134	10,557	10,141	10,398
U. S. Documents	3,664	3,887	4,698	4,389	4,523
Total	19,425	21,520	22,630	22,133	22,658

to the stack. The number of United States documents has diminished for the same reason.

The books shelved in the reading-room, together with those in the various special reference libraries in Harvard Hall, Warren House, and elsewhere, amount altogether to about 63,000 volumes to which direct access can be had by all students to whom they are of value. In addition the library of the Harvard Union now offers to its members over 6,000 books, mainly literature, biography, history, travel and sport.

Cards of admission to different sections of the book-stack continue to be given, on recommendation of an instructor, to all advanced students who need to go directly to the shelves for purposes of investigation in connection with their work. Such students have the same facilities for the examination and study of all the resources of the Library, in their chosen departments, that the officers of instruction enjoy. The use of these cards of admission to the book-stack is shown in the following table: —

ADMISSION TO THE BOOK-STACK.	1895–96.	1896–97.	1897–98.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.
History	66	54	51	78	112	81	90	118
Science	4	11	33	43	30	36	37	45
Art and Archaeology (including Music)	11	18	34	38	33	33	55	46
Literature	63	64	90	90	85	74	80	125
Classics	41	41	52	60	70	58	70	73
Philosophy	6	4	11	19	19	22	27	31
Theology	1	1	3	5	1	1	14	2
Economics and Sociology	12	4	9	12	13	13	16	33
Education	1	5	2	8	4	7	4	25
Geography	..	8	14	2	3	9	15	6
Publ. of Learned Societies	..	..	..	..	..	16	8	7
Total	205	210	299	355	370	350	416	511
Times of use	4,601	4,381	5,750	5,826	6,898	6,067	5,551	6,244

The increase in this use during the past year is to be regretted, since the tables which can be occupied are few and are needed by officers of the University as well as by students, and I have had to call the attention of the Faculty to the fact that any further increase is inadvisable. I have also posted in the stack notices as follows: "Students who have access to the Stack are reminded that the tables here, being few in number, must not be used for protracted study or writing. Such work should be done in the Reading-room."

The number of individuals admitted was 366, not 511, because the same person often receives permission to use different parts of the book-stack.

In the course of the year the temporary use of the Library has been granted to 165 persons not connected with the University, who have come to Cambridge for purposes of study. As in other years, frequent applications for the loan of books have been received from other libraries, especially college libraries, and from scholars in distant parts of the country, and the Library has sent away 997 volumes in response to these requests.

The Sunday use of the reading-room is shown in the following table. The room is open, to readers only, every Sunday in term-time from one to half-past five in the afternoon.

SUNDAY USE.	1895–96.	1896–97.	1897–98.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.
Sundays open	24	35	35	35	35	35	36	35
Users	2,359	5,010	4,635	5,093	4,846	5,471	4,909	5,073
Average	98	143	132	145	138	156	136	144
Highest No.	140	227	297	260	236	226	225	227

Since last May we have allowed reserved books to be taken from the reading-room Saturday afternoon or evening, to be kept over Sunday, on condition that they be returned on Monday morning at nine o'clock. This seems to work well and satisfies in part the wants of those for whose benefit we were asked last year to open the Library Sunday evening, that is to say, those who want to work on Sunday and prefer to work in the evening rather than in the afternoon. It withdraws a number of useful books, it is true, from the reading-room on Sunday afternoon, but as the principal reason for opening the room on Sunday afternoons is to provide for recreation rather than for work, no serious objection can be made on this ground. About a hundred volumes are taken out every Saturday.

EXCHANGES.

Mr. Tillinghast, the Assistant Librarian, has taken direct charge of the exchange of publications with other universities and institutions, and has tried to put this department of the Library's work on a more systematic and satisfactory basis. The only publication, however, which the Library itself controls is its own series of Bibliographical Contributions. The publications issued by other departments of the University are published under such varying conditions that a uniform system of exchange seems to be at present impossible. The great institutions connected with the University, like the Museum of Comparative Zoölogy and the Astronomical Observatory, bear the expense of their own publications, distribute them in their own name, and naturally claim anything received in exchange as their own; but in a few cases they transmit publications of a general nature so received to the College Library. The departments of the Faculty of Arts and Sciences, Classical, Modern Language, Indo-Iranian, Historical, Economic, etc., also publish series of papers. In some cases these are sold by a commercial house, in others by the College; some are supported by a special fund insufficient for the full expense, others by a grant from the College treasury, others are on a purely commercial basis; but each is managed by a committee of the department, and it is impossible for the Library to use them as freely and consistently in arranging exchanges with other institutions as would be desirable. If a more uniform system of publication under the management of the Publication Office of the University is ever introduced, it may then be possible to put the whole business of exchanges into the care of an Exchange Bureau connected either with that Office or with the Library, and to authorize it to send out publications in the name of the University and to distribute equitably to the different departments what it receives in return. At the same time it is not to be expected that any system would result in a perfect balance of give and take. The first object of a learned institution or of a university with regard to its publications should be to place them where they will be of service; what it receives in return is an incidental advantage. We have tried, especially in arranging exchanges with other universities, to make the best use of what we have, and we have tried to send to each university, so far as possible, the kind of publication we receive from it, — to maintain, that is to say, some equality of kind but not of amount in our exchanges. The amount received commonly exceeds the amount we can send, but I am the less troubled at this because we often have the opportunity to favor our correspondents by lending them books which they do not own. At present a regular exchange of publications has been established with the following American and foreign universities, the receipts being mainly dissertations, and, in a few cases, series of philological or historical papers. Medical dissertations received in this way are transmitted to the Medical School, and law dissertations, when of a technical nature, to the Law School.

American Universities.

Cornell University.
Johns Hopkins University.
Leland Stanford Junior University.
McGill University.
Princeton University.
University of California.
University of Chicago.
University of Kansas.
University of Nebraska.
University of Pennsylvania.
University of Toronto.
University of Virginia.
University of Wisconsin.
Yale University.

Foreign Universities.

Berlin.
Bonn.
Breslau.
Christiania.
Erlangen.
Freiburg.
Giessen.
Göttingen.
Grenoble.
Halle.
Heidelberg.
Jena.
Kiel.
Königsberg.
Leipzig.
Lille.
Lund.
Lyons.
Marburg.
Munster.
Paris.
Rennes.
Rostock.
St. Petersburg.
Strasburg.
Tübingen.
Upsala.
Utrecht.
Würzburg.

The number of dissertations received from each university varies from 10 to 160.

SHELF DEPARTMENT.

Mr. Frank Carney, who has charge of the current work of the shelf department, reports 15,913 volumes permanently located in the stack during the year, 12,367 added to classes previously arranged, and 3,546 in sections newly classified, making 310,909 volumes so placed of the entire Gore Hall collection.

The newly classified sections are the following: —

	Volumes.
Africa: sections covering the history, description, etc., of Abyssinia, Algeria, Tunis, Sahara, Tripoli. (These, with Morocco reported last year, complete Northern Africa, with the exception of Egypt.)	280
Theatre	1,346
Molière	1,531
Sumner Rarities	320
Bibles	69
	3,546

With the present staff and under our crowded conditions no substantial advance can be made in re-classification; but the receipt of many gifts relating to Northern Africa made it desirable to bring together what we already had, so that permanent numbers could be assigned. Mr. Drew's gift of the Lowe collection on the theatre and Mr. Hyde's gift of the Molière collection in like manner induced us to collect what we already had on the history of the stage, and to make a new special arrangement for Molière. The "Sumner rarities" form the choicer portion of the library of Senator Sumner bequeathed by him to the College. Years ago many of them were exposed in glass cases where visitors could see them, but there has long been no opportunity for the exhibition of rare books, and this collection of highly interesting volumes has been packed away in locked cupboards out of sight. The books have lately been transferred to shelves in my office, where behind glass doors they can at least be seen and more easily examined. They have been arranged in a suitable order, and in addition to the carefully made alphabetical catalogue printed as Bibliographical Contribution number 6, in 1879, I have had a rough index prepared by which the more noted bindings, the autographs, autograph manuscripts, book-plates, and other marks of ownership can be quickly found. At least one hundred of the volumes are interesting on account of their former owners; such are those which once belonged to Lorenzo de Medici, Leonardo Aretino, the Doge Foscarini, the inquisitor Torquemada, Montaigne, Montesquieu, Racine and Voltaire, Colbert and Talleyrand, Louis XIV, XVI, and XVIII, Madame de Pompadour, and Napoleon, Anne Boleyn, Queen Elizabeth, and Charles II, Bunyan, Evelyn, Drummond of Hawthornden, Ben Jonson, Congreve, Dryden, Milton, Pope, Swift, Walpole, Gay, Gray, Burke, Wordsworth, Byron, and Watts, Melanchthon, Holbein, and Rubens.

A few representative and important editions of the Bible were brought together for the benefit of Professor Gardiner's course, and numbered in such a way that the whole collection of Bibles can be incorporated later without re-numbering these.

Mr. Carney reports that in classifying pamphlets on the shelves, he is more and more inclined to treat them with the same care as bound volumes, placing them so far as possible with the precise subject of which they treat, instead of collecting them in boxes under general heads. Single pamphlets, when not of enough importance to be bound, are put in a stout manila envelope which takes its place like a volume on the shelf; second and third pamphlets on the same subject are put into the same envelope. As more appear they are transferred to a thin pamphlet box, then to a larger box, and finally the collection is bound when it has reached a suitable size. The resulting volumes are accordingly homogeneous in character.

Mr. Carney also calls attention to the fact that our method of shelving rare books is unsatisfactory. These books are now protected by being placed in small locked closets which have been built at frequent intervals as needed against the ends of the book-rows in the stack. In each closet are to be found the volumes which would naturally belong on the shelves in that vicinity, an arrangement that was expected to prove convenient. But in practice the system is not satisfactory. The books are subjected to unnecessary wear when asked for in the delivery room and handed out over the counter to be used in the reading-room, while if a reader who is working in the stack wants one of these books, he must go down to the delivery room and find an attendant, who gets a key, returns with him, and unlocks the closet; but the closet should not be left unlocked, and the same operation may have to be repeated indefinitely. The books could be guarded more efficiently, and used more safely, and readers be more conveniently served, if all these rarities which require special care should be brought together into a separate room suitably furnished, where the books would be used on the spot and under surveillance. This, however, is an improvement which must wait till we have a new library. No change is possible under present conditions.

During the summer, in order to give us a little more free space, about 5,500 volumes were moved to the basement of Robinson Hall, where shelving had already been built for another purpose. These, with the medical books sent last year to the Medical Library in Boston, and the newspapers in the basement of Perkins Hall, make about 12,000 volumes which we have had to turn out of the present library building.

The crowded condition of the shelves is also shown by the fact that we have been obliged to put double rows on the shelves in over fifty places; the reserved books when they come back to the stack from the reading-room at the end of the season find themselves crowded out from their old shelves by newcomers which have appeared during their absence; and 2,600 shelves have had to be shifted in the course of the year in order to gain a few inches of room here and there, so that new books may be added. This work of shifting, done from time to time, has required the equivalent of about thirty-five days' labor.

The changing of shelf-marks on the catalogue cards occasioned by re-classification of books on the shelves, was in arrears at the beginning of the year, but is fairly well up to date at its close. The work has been done by employing extra helpers. What remains of this work is, in great part, for articles catalogued years ago from periodicals and proceedings of learned societies. The cards for these bear the old marks of these sets, which cause annoying delays and errors when used in calling for the volumes. The work is troublesome and cannot be rapidly done, but it must be taken up again and finished as soon as possible.

The loss of 102 volumes during the year is reported, 50 from the stack, 37 from the reading-room, and 15 from the new books exposed on open shelves in the delivery room. On the other hand, 45 volumes missing at the last examination have been found. Our net loss for the last twenty years has been an average of 47 volumes a year. Less time was given to the current examination of the shelves, and the ground was only covered completely once without the shelf-lists and once as usual with the shelf-lists. In these two examinations 504 volumes were found on the wrong shelves and 1,971 volumes out of order on their proper shelves — not a bad result considering the number of persons who have direct access to the shelves.

CATALOGUE DEPARTMENT.

Mr. Currier, in charge of the catalogue department, presents the following facts and figures in regard to the work of that department.

CATALOGUE WORK.	1898-99.	1899-00.	1900-01.	1901-02.	1902-03.
Titles catalogued for College Library:					
Full and complete work	6,584	6,539	6,727	9,226	8,517
Continuations, analytical entries, etc.	2,525	3,037	5,958	4,263	4,450
Incomplete work	3,167	3,818	11,484	2,936	3,373
Total	12,276	13,389	24,169	16,425	16,340
Titles for Dept. and Special Libraries	2,087	2,378	3,361	6,594	3,846
Total titles catalogued	14,363	15,767	27,530	23,019	20,186
Cards added to Catalogue:					
Printed cards —					
College Printing Office	18,226	16,736	16,857	16,555	18,135
Library of Congress	. . .	. . .	. . .	2,700	5,440
A. L. A. Publishing Board . . .	. . .	2,616	6,849	3,709	4,076
Total	18,226	19,352	23,706	22,964	27,651
Written cards	4,769	6,703	6.597	8,455	6,728
Total	22,995	26,055	30,308	31,419	34,379

The work has fallen a little behind that of the previous year, owing to the loss of two experienced cataloguers and the substitution of untrained assistants in their place. This work requires so much attention to detail and to precedent, in order to attain a reasonable degree of uniformity, that changes in the personnel of the staff are peculiarly disadvantageous. The total compares more favorably with last year's total than appears at first sight, for it should be noted that at the end of this year there were awaiting revision (and so failed to be counted) some 200 more titles than were waiting at the close of last year, and that last year the titles catalogued for the departments included about 3,000 catalogued for the Education Library in summary fashion by extra help.

The table shows that we have increased the use of catalogue cards received from the Library of Congress, so that about 16 per cent. of all the cards added to our catalogue are from this source. The proportion of printed cards from our own printing office remains about the same, while the proportion of written cards fell last year from 27 to 19.6 per cent. Five years ago 79 per cent. of the cards added to the catalogue were from the College printing office and 21 per cent. were written; last year about 53 per cent. came from the College office, 28 per cent. from the Library of Congress and the American Library Association Publishing Board combined, and 19 per cent. were written. The expense of the cards received from the Library of Congress averages about 1⅛ cents each, far less than the cost of cards written by hand or printed in our own office. The cards received from the American Library Association Publishing Board cost about ⅘ of a cent apiece, but a considerable number of those received are not used, so that the net cost to the Library is about the same as for the Library of Congress cards. The supply of cards received from the Library of Congress is remarkably prompt, but naturally differs according to the character of the titles ordered. When we can order by serial number, *i. e.*, with knowledge that the book has been already received and catalogued by the Library of Congress, we receive over 96 per cent. of the cards ordered within a week. For American copyright books ordered by title, *i. e.*, before the Library of Congress has had time to receive, catalogue, and publish the titles, 72 per cent. of the cards come within two weeks, but 7 per cent. of such orders we finally have to catalogue ourselves. Ordering for English and foreign books gives much more uncertain results, and long delays in receiving cards are not infrequent, but the saving in expense over printing our own cards is so great that we are content to wait in some cases eight or ten weeks, making a temporary record of the book in the meantime and putting it into circulation.

An increase of the staff being impossible at present, we are still unable to keep up with the continually increasing stream of accessions. A part of the books received have, therefore, to be recorded in a temporary and incomplete form, the number of titles this year so recorded being 3,373. This method of treating the less important books has now been in operation some years. The work has been done in such a way that these books can be taken up again without difficulty at any time when we are able, but the number is becoming formidable and the final cataloguing will some day be a serious burden. Mr. Currier estimates that, including books lately received and now in process of cataloguing, books received in recent years and recorded on the official catalogue only, certain special collections, such as the Riant MSS. and the Judeo-German and Slovak collections, bound volumes of pamphlets, and some sets of printed cards for articles in long series (not yet inserted in the catalogue), we have on hand at the close of the year about 33,870 titles uncatalogued or incompletely catalogued. I see no hope of even making a beginning on this work until the staff can be enlarged, and that cannot be done until we have larger and more convenient rooms to work in and larger means for the expenses of administration. As it is, the efficiency of the staff is impaired by the conditions under which the work is done, its members being scattered, and by the diminishing shelf-room on which a constantly increasing collection of necessary reference books has to be kept.

ORDERING DEPARTMENT AND FINANCIAL CONDITION.

The following table shows the income of our book funds, receipts from other sources for the purchase of books, and expenditure for books during the last six years. It will be seen that for the last three years our expenditure on account of book funds has exceeded the income from the funds by several hundred dollars, with the result that our free balance of $5,176 carried over August 1, 1900, has been reduced by almost two thousand dollars, to $3,197. This smaller balance and a decline of about five hundred dollars in the income itself makes it necessary to adjust our appropriations for books in the several departments to a more economical basis.

INCOME AND EXPENDITURE.	1897–98.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.
From book funds, —						
Balance from previous year .	$2,303	$737	$5,028	$5,176	$4,547	$4,021
Income of the year	13,010	18,301	18,510	19,279	19,944	19,450
Total available	15,313	19,038	23,538	24,455	24,491	23,471
Spent for books	14,576	14,010	18,362	19,908	20,470	20,274
Balance to next year	737	5,028	5,176	4,547	4,021	3,197
Special gifts, sales, etc. —						
Balance from previous year .	1,176	839	2,940	936	1,932	2,276
Received during the year . .	506	3,906	5,137	6,115	3,411	4,461
Total available	1,682	4,745	8,077	7,051	5,343	6,737
Spent for books	843	1,805	7,141	5,119	3,067	4,902
Balance to next year	839	2,940	936	1,932	2,276	1,835
Total spent for books, —						
College Library	$15,419	$15,815	$25,503	$25,027	$23,537	$25,176
Department Libraries (books ordered through Coll. Lib.)	5,322	3,869	4,748	4,484	7,245	7,389
Total	$20,741	$19,684	$30,251	$29,511	$30,782	$32,565

The work of the ordering department, in charge of Mr. Potter, is summed up in the following table, which gives the figures of the last three years and the averages of two previous five-year periods.

WORK OF ORDERING DEPARTMENT.	1890–95. Average.	1895–1900. Average.	1900–01.	1901–02.	1902–03.
New orders, —					
Total received and examined . . .	5,132	7,327	10,021	10,716	13,566
Already owned or ordered	1,193	1,725	2,596	2,826	4,921
Forwarded	3,800	5,036	6,782	6,696	8,477
Estimate of cost, —					
For the College Library	$9,079	$10,145	$14,759	$14,590	$14,982
For Departments	2,902	3,223	2,510	4,956	4,621
Total estimated cost	11,981	13,368	17,269	19,546	19,603
Shipments received from abroad . .	28	33	52	69	76
†No. of vols. bought for College Lib.	4,416	5,736	7,061	7,400	7,731
‡Total gifts examined and passed on	16,050	16,455	18,984	20,878	20,799

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† Excluding volumes formed by binding periodicals and pamphlets.

‡ Including both volumes and pamphlets. See p. 204.

The increase in the number of orders forwarded without a corresponding increase in the estimated cost may be partly accidental, but is largely due to the fact that we have recently ordered more freely from booksellers' catalogues. In general, books may be bought cheaper in this way than when ordered outright; while in many cases the book advertised has been sold, so that our order is not filled. Both facts reduce the "estimate of cost" in proportion to the number of "orders forwarded." The rapid growth of the work and the prospect of still larger increase in the coming year has made it necessary to give Mr. Potter an additional assistant and a new typewriting machine. Mr. A. F. Crowley has accordingly been transferred from the Harvard Hall reading-room to the Gore Hall staff and will give most of his time to Mr. Potter as stenographer and typewriter, beside helping Mr. Briggs in the reading-room when the work there presses. In this way I expect that the delays which occurred last year in sending out orders will be avoided. All work connected with the verification of orders requires great care and experience. The difficulties that beset it come from various sources, — incompleteness or error in the title as handed in, mistakes in our own catalogue, or in the current bibliographical records, uncertainty as to the proper entry of many books, and finally, the increasing number of incompletely catalogued books in the Library, books, that is to say, which have a single somewhat hastily made entry on the official catalogue, but no subject entries or reference cards to help the searcher when in doubt. In spite of these difficulties, the value of the duplicates unintentionally acquired represents only one-half of one per cent. of the expenditure for books, and a large part of this is recovered from the sale of the books.

THE ARCHIVES AND THE HARVARD COLLECTION.

Mr. P. H. Tufts has continued in charge of the Archives and the collection of printed matter relating to the University, but work on these two collections continues reduced to its lowest limits. We only try to keep in order the accessions currently received and prevent the work from falling seriously behind.

WILLIAM COOLIDGE LANE,
Librarian.

THE GRAY HERBARIUM.

To the President of the University: —

Sir, — During the academic year 1902–03 no changes have been made in the personnel of the Herbarium staff. The following persons, however, have been temporarily employed in connection with the work of the establishment: Mr. F. Schuyler Mathews as artist; Professor A. S. Hitchcock, of the United States Department of Agriculture, in special work upon the *Gramineae;* Mr. J. F. Collins, of Brown University, as assistant and artist; Miss E. W. Coolidge, in the sorting and distribution of *inserendae;* Mr. J. R. Johnston as botanical collector.

During the year many valuable collections of plants have been received, the following being the most important. By gift or in exchange: From the herbarium of the late Charles G. Loring, 855 plants, chiefly from the north shore of Lake Superior; from Dr. J. W. Blankinship, 642 plants of Montana and Wyoming; from Professor James Fowler, 718 plants of Ontario and New Brunswick; from Professor C. F. Millspaugh, of the Field Columbian Museum, 114 plants of Yucatan; from the New York Botanical Garden, 969 plants of Newfoundland and Nova Scotia, collected by Messrs. Howe and Lang; from Mr. W. H. Blanchard, 443 plants of eastern Vermont; from President E. Brainerd of Middlebury College, 237 plants, chiefly of western Vermont, critically selected to illustrate variation in *Viola* and certain other difficult genera; from Mr. John Donnell Smith, of Baltimore, 427 plants of Central America, in continuation of his valuable *exsiccatae* of Guatemala, etc.; from the Imperial Museum of Natural History in Vienna, 905 numbers of Reichenbach's classical *Exsiccatae Germanicae;* from the Botanic Garden at Sydney, 203 plants of Australia, largely of the genus *Eucalyptus;* from Mr. W. M. Canby of Wilmington, Delaware, 702 miscellaneous duplicates; from Dr. J. W. Haberer, 501 plants of central New York; from Professor L. H. Pammel, 267 plants of the Uinta and Wasatch Mountains; from Mr. E. F. Williams, 1,104 plants, chiefly from northern Maine and Quebec; from the Alstead School of Natural History, 176 plants of the middle Connecticut Valley; from Professor C. V. Piper, 226 plants of Washington State; from the

Royal Botanical Garden at Sibpur, 103 Indian orchids. By purchase: From Mr. A. A. Heller, 720 plants of California and 307 plants of Porto Rico; from Mr. C. L. Pollard, 325 plants of Cuba; from Mr. C. F. Baker, 1,027 plants of the Pacific Slope; from Professor S. M. Tracy, 956 plants of the Gulf States; from Mr. Theodor Holm, 200 plants of Scandinavia; from Mr. H. H. Smith, 2,367 plants of Colombia; from Mr. R. M. Harper, 470 plants of Georgia; from Mr. E. P. Sheldon, 257 plants of Oregon; from Messrs. Merrill and Wilcox, 728 plants of Wyoming; from Mr. A. Fredholm, 103 plants of Florida. Collected by the staff: By Mr. C. G. Pringle, 783 plants of Mexico, 112 plants of Cuba, and 600 plants of Vermont; by the Curator, aided by Mr. E. F. Williams, 425 plants of the White Mountains and western Maine.

The whole number of specimens received from all sources was 20,781. During the year 16,421 sheets of mounted specimens were added to the organized portion of the Gray Herbarium.

May 1st the Herbarium received, in the Robert C. Billings Fund of $15,000, a substantial and much needed addition to its endowment. In this connection it may be noted that during the last ten years the permanent funds of the Herbarium have been raised from $18,155.91 to $89,618.17.* Although at the present low rate of interest this sum is still far from sufficient, its growth shows an increasing appreciation of the value of the Herbarium, and encourages the hope that the establishment may before many years be on a basis of permanent and adequate support. In the mean time it would be difficult to overstate the importance of the temporary aid, which for several years has been so readily and cordially given by the many contributors mentioned in the Treasurer's Report. This year these gifts for present use have aggregated $7,550. Of this sum about $3,500 was contributed to meet the absolutely necessary expenses for maintaining the Herbarium, and retaining the present staff. The remainder, however, was given for the following special purposes: The sum of $500 to enable the Herbarium to send Mr. M. L. Fernald to Europe to examine and photograph type specimens connected with research and monographic work which is now being prosecuted at the Gray Herbarium; $500 to send a botanical collecting expedition to Margarita Island; $450 for the purchase of a block of eight steel herbarium cases; $300 to aid Mr. Pringle's botanical exploration of Mexico; $500 for the purchase of such European local floras as were not already represented in the Herbarium library; $200 to publish a much needed index (now in advanced preparation by Miss M. A. Day), to cover the first twenty-five Contributions from the Gray Herbarium.

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* This does not include the J. L. Russell Fund, the income of which is apportioned by the Corporation.

Early in the year the Curator, with the collaboration of Professor W. G. Farlow, Dr. A. W. Evans, and several foreign specialists, published a Flora of the Galapagos Islands, including a bibliographic and synonymic enumeration of all plants known to occur in this biologically important archipelago. The paper also contains much statistical and tabular matter upon the distribution, relationship and probable origin of the different elements of the Galapageian flora.

During the summer of 1903 Mr. M. L. Fernald, in the interests of the Gray Herbarium, visited the herbaria of Geneva, Paris, London, Kew, and Oxford. With a wide and critical knowledge of American plants, Mr. Fernald has, during his studies in the foreign herbaria, been able to identify many obscure type specimens obtained by the early American explorers, and has done much to render clear the descriptions of Michaux, Pursh, and others, so important in the classification of American plants.

Mr. C. G. Pringle, collector for the Gray Herbarium, has continued with marked success his work in Mexico, and during the spring distributed one of the most valuable sets of plants ever prepared in America. The specimens were chiefly from the mountains of southern central Mexico, and nearly 25 per cent. of them represented species and varieties new to science. Mr. Pringle also made a trip to Cuba where, although chiefly occupied in some experiments in plant-breeding, he was able incidentally to obtain a small but excellent systematic collection. The difficult task of identifying the tropical plants secured by Mr. Pringle has been accomplished chiefly by Dr. J. M. Greenman.

During the summer of 1903 Mr. J. R. Johnston undertook for the Gray Herbarium a botanical collecting trip to Trinidad and Margarita Island, off the coast of Venezuela. Mr. Johnston was accompanied by an assistant and by Mr. A. F. Blakeslee, who went as collector for the Cryptogamic Herbarium. The members of the expedition were fortunate in escaping serious illness, and were able to bring back about 4,500 specimens, chiefly from Margarita Island. This collection is important to the Herbarium, both as showing the nature of an interesting flora and in furnishing valuable exchange material from a little explored region.

By way of summary, it may be said that the past year has been an unusually prosperous one for the Gray Herbarium. More plants have been purchased, more specimens added to the organized collection, more books and pamphlets acquired, more tropical exploration accomplished than in any previous year since accurate records have been kept. It has also been possible to employ more freely the time of skilled artists in plant illustration, and by sending out the *Exsiccatae Grayanae* (mentioned in the last report) to extend considerably the exchange relations of the Herbarium with foreign establishments. That the Herbarium has been able to end so successful a year free from debt is due chiefly to the efficiency and liberality of an energetic and devoted Visiting Committee.

The great need of the Herbarium is a new and fireproof building of ample size for the safe preservation of its scientifically invaluable but now dangerously congested collections. The floor cases, which it has been necessary to add from time to time, have now so largely filled the space in the herbarium building that the work of sorting and distributing specimens is carried on only with the greatest difficulty, and it is no longer possible to offer to the numerous visiting specialists adequate or well-lighted table space for comfortable work.

During the year the staff of the Herbarium has published twenty-six papers, of which the following from their scientific interest may be specially mentioned.

A new western Camassia. By J. M. GREENMAN. *Bot. Gaz.*, XXXIV, 307–308.

Contributions from the Gray Herbarium, N. S., No. xxiv. By B. L. ROBINSON (Flora of the Galapagos Islands). *Proc. Am. Acad.*, XXXVIII, 77–269, plates 1–3.

Variations of Glaux in America. By M. L. FERNALD. *Rhodora*, IV, 213–216.

Variations and distribution of American Cranberries. By M. L. FERNALD. *Rhodora*, IV, 231–237, plate 40.

Andromeda Polifolia and A. glaucophylla. By M. L. FERNALD. *Rhodora*, V, 67–70.

Chrysanthemum Leucanthemum and the American Whiteweed. By M. L. FERNALD. *Rhodora*, V, 177–181.

B. L. ROBINSON, *Curator*.

THE BOTANIC GARDEN.

To the President of the University: —

Sir, — As Director of the Botanic Garden, I have the honor of presenting the following report for the academic year 1902–03.

Mr. Oakes Ames, Assistant Director, has been absent during the whole year. In every part of the establishment we have missed his advice and help. It is hoped that he may resume his duties early in the spring.

Mr. Robert Cameron, Superintendent, has given me the following notes, to which I respectfully call attention, as matter of record: —

During the autumn of 1902 many shrubs that had become too large for the natural order beds were taken up and removed to the shrubbery border on the Raymond street side of the Garden. They made good growth during the summer and seemed little the worse for their change.

In winter the greenhouses needed more care than usual, owing to the extra work required in burning soft coal. To burn soft coal satisfactorily our heating apparatus would have to be changed completely.

The drought of the early summer was severe on vegetation, but with the excellent new water system which the Garden now possesses we were able to keep all the plants in good condition.

The plants in the greenhouses are all doing well, but it seems a pity that almost every year in our palm-house we have to cut down and destroy large and valuable specimens that have grown too large for our small and inadequate palm-house. The herbaceous plants and shrubbery have made during the season satisfactory growth.

The dry weather alluded to by Mr. Cameron made us very anxious at first, but it was soon seen that the improvements of year before last, in our system of water-pipes through the Garden, enabled us to meet it effectively. The consumption of water during the time of peril was large, and greatly increased our expenses of the year.

The period of greatest anxiety was at the beginning of autumn, when the impossibility of obtaining anthracite coal declared itself. We were forced to use under our boilers poor sorts of bituminous coal. This coal was dealt out in small quantities, at high prices, and with the constant threat that even this supply might suddenly cease. Therefore we provided the houses with a sufficient supply of petroleum as fuel, to tide over any such extreme emergency; fortunately, we were not compelled to use this dangerous and unsatisfactory agent. But in order to utilize the soft coal to any advantage, we had to employ an additional stoker for night work at the boilers, and we had to face constantly the danger of having the boilers, which had been constructed for hard coal, give out suddenly under soft coal. The many shifts to which we had to resort to carry the houses through the winter proved costly, and are likely to leave their bad traces for some time.

Plans for rearrangement, outlined in previous reports, have progressed as steadily as possible, and to the marked improvement of some orders and genera. The special plots of ground devoted to the plants mentioned by Virgil, by Shakespeare, and by the herbalists at the time of the founding of Harvard College, have continued to attract intelligent attention. During the coming spring we shall probably add two more special plots.

The new Memorial Greenhouses and Laboratory have again proved their usefulness. The economic and decorative sections of this range have been more than usually attractive. The Laboratory has been in nearly constant use. Its equipment has been sufficient to enable Mr. Plowman, Assistant in Botany, to carry on his interesting experiments in the ionization of soils, and certain relations of plants to magnetism. The results of some of these studies have been published. Researches by the Director on new methods for identifying fibres and fibrous structures have been carried on in this Laboratory. This investigation is connected with the illustrated catalogue of economic plant-products in our Museum, which has made fair progress during the year.

With the exception of the newer houses, all of our buildings have demanded heavy outlays for repairs. The replacement of these old wooden structures by buildings of steel and glass, with more convenient fittings for work, would save expense in many ways. But with our scanty means this desirable replacement cannot at present be undertaken. Under existing circumstances we must do the best we can with the decaying wooden houses and their patchwork of repairs. The increasing use of our houses by the students of Applied Botany in the Departments of Landscape Architecture and of Forestry, and also by the pupils in the Summer School, seems to demand that all of our greenhouses and hothouses should soon be placed on a more satisfactory basis for elementary experimental work in Physiological Botany.

One of the sources of constant expense at the Garden is the dilapidated fence around the grounds. This unsightly affair is now about fifty years old, and of late years has been held together only by most patient carpentry. The present fence was built by a special subscription, and cost about nine hundred dollars. At the current high prices of lumber and labor, a new fence would cost very much more, but this expenditure cannot be much longer safely deferred.

The Botanical Museum continues to grow in interest and importance. Considerable additions have been made to the economic collections, especially in the classes of fibres and foodstuffs. The difficult work of incorporating these in the general series, and of rearranging selected specimens for exhibition, study, and exchange, has gone on with little interruption. The Director again desires to express his appreciation of the valuable services rendered in this task by Mr. F. Leroy Sargent. Two anonymous donors have continued to defray the cost of this work, and of the allied work in the preparation of an illustrated catalogue of the collections. As fast as possible, older specimens are replaced by better ones which are at once installed in our cabinets.

The Ware Collection of glass models of plants in flower has received important additions during the year. Nearly all of the specimens have been transferred from the unsatisfactory pasteboard mounts to permanent plaques of plaster of paris. Numerous attempts have been made from time to time to make and use plaster tablets, but the results have not generally been such as to warrant their use. But, three years ago, a suggestion made by Dr. Libbey, of Boston, induced me to undertake anew the manufacture in a different way. The tablets which are now in our cases have a surprising hardness and perfect finish. In the opinion of persons thoroughly conversant with Museum technique, these newer tablets leave nothing to be desired as permanent mounts. During the incorporation of the later specimens, it was found expedient to rearrange the whole collection according to the latest accepted classification of flowering plants, and advantage was taken of the same opportunity to have the nomenclature re-examined. This work was entrusted to Dr. Jesse More Greenman, who finished the greater part of it early in the past summer. About three months' work still remains.

The Botanical Museum has received from Miss C. L. W. French, of Boston, an interesting annotated copy of Bigelow's Florula Bostoniensis, and also a collection of water-color paintings by Miss French and Mrs. Murdock. The exquisite drawings and paintings have given a great deal of pleasure to a large number of visitors.

The collection has been placed in a suitable case on the fourth floor.

A complete set of colored lithographs of the different varieties of sugar-cane has been properly framed and installed on the south wall of the Economic room.

The palaeontological collections have been under the direction of Dr. R. T. Jackson, who submits the following memoranda: —

> Mr. J. A. Cushman has continued his work on the arrangement of the collection of fossil plants, and satisfactory progress has been attained. During the year the work was principally on the carboniferous material. The catalogued lots now number 7,326. These are in safe, permanent condition. A number of types and figured specimens have been found in addition to those mentioned in the report of last year.

The Harvard Experiment Station in Cuba, founded by Mr. Atkins, has proved to be serviceable from a scientific and practical point of view. Mr. Ames, the Assistant Director, Mr. Pringle, the Botanical Collector, and Dr. J. C. Willis, Director of the Royal Botanic Gardens, Peradeniya, Ceylon, visited the Station in late winter, and gave favorable reports of progress. Many suggestions by Dr. Willis, who has had large experience in such stations, are valuable, and will be acted on this year. Mr. Robert M. Grey, who had already been at the Station, engaged in the practical study of the sugar-cane, has been selected as resident superintendent, and has assumed charge.

It should be emphasized that this Station can be made very useful to the Cubans and to our own students. Mr. Atkins bears all expense connected with the undertaking. He expresses himself as well satisfied with the beginning which has been made.

In conclusion, the Director presents his sincere thanks to the members of the Overseers' Committee on the Botanic Garden for helpful suggestions and for substantial aid. He agrees with the Committee that the present is not a propitious time to undertake a general subscription for the increase of the invested funds of the Garden and Museum, and he is reluctantly obliged to rely on gifts by friends for its proper maintenance during the coming year.

GEORGE LINCOLN GOODALE, *Director.*

THE ARNOLD ARBORETUM.

To the President of the University: —

Sir, — I have the honor to submit the following report on the progress and condition of the Arnold Arboretum during the year ending July 31, 1903.

During the year a larger number than usual of species of living plants has been added to the collections; many renewals of worn-out or unsatisfactory specimens have been made, and the living collections are believed to be richer and in a more satisfactory condition than at any time since the establishment of the Arboretum. Additional grass walks have been made where they were needed for access to the collections, and these can now all be reached easily and quickly. A culvert under South street of insufficient capacity had for years checked the flow of the Bussey Brook during periods of freshet, and at such times the banks of the brook at the base of Hemlock Hill have often been washed away or injured. During the year the City of Boston has replaced the old culvert by one large enough to carry the brook at the time of its largest flow, and the banks near South street have been graded and will be permanently planted. The City has also built a stone sanitary building for the use of the public at a convenient place near the middle of the Arboretum. The widening of Walter street and the change of its grade made a new boundary wall necessary along the whole north side of the Peter's Hill extension. This has been built during the year in a substantial manner with money awarded by the Street Department of the City of Boston for the purpose.

The exchange of plants and seeds with other botanical establishments has been continued during the year. 6,964 plants (including grafts and cuttings) and 3,199 packets of seeds have been distributed as follows: To the United States, 6,393 plants and 319 packets of seeds; to Canada, 187 plants; to Great Britain, 377 plants and 375 packets of seeds; to the continent of Europe, 7 plants and 2,279 packets of seeds; to Japan, 226 packets of seeds. There have been received during the year 4,928 plants and 652 packets of seeds.

During the year 3,168 sheets of dried plants have been added to the herbarium; and 540 sheets of duplicates have been distributed to other establishments.

The library has received by gift 700 bound volumes and 600 pamphlets.

During the year Mr. George R. Shaw of Boston has fitted up one of the halls in the Museum Building with handsome and convenient cases for the preservation and display of the collection of conifers. Mr. Shaw has now taken charge of this collection, which he is improving and extending with numerous additions, especially in the genus Pinus, in which he is particularly interested.

During the year I have made a journey round the world for the purpose of improving the relations of the Arboretum with other botanical establishments, and of thus widening its scope and increasing its usefulness, and also for the purpose of stüdying the distribution of trees and forests in parts of the north temperate zone which I had not seen. During this journey I visited the botanical establishments at Kew, Paris, Leyden, Berlin, St. Petersburg, Moscow, Tiflis, Hongkong, Singapore, Buitenzorg, and Tokio, and several commercial and private collections of plants in Europe. I was able to make considerable collections of dried plants in the Crimea and the Caucasus, in eastern Siberia and in Manchuria, on the eastern coast of Korea, in the neighborhood of Peking, on the islands of Hongkong, Singapore and Java, and in southern Japan. Of the scientific results of this journey, which is one of the most fruitful I have made, it is too soon to speak.

The work on the Bradley Bibliography of dendrological literature has been continued steadily throughout the year, and about 80,000 cards are now finished.

Instruction in dendrology has been given by Mr. Jack to students of landscape-gardening in the Institute of Technology, and during the spring months to a class largely composed of teachers. The average attendance at these spring lectures was thirty-eight.

During the year the following works have been finished at the Arboretum and published: —

Trees and Shrubs. Parts i and ii. Houghton, Mifflin & Co., Boston. Nov. 26, 1902; May 13, 1903. Plates 1–50.

The Genus Crataegus in Newcastle County, Delaware. *Botanical Gazette*, XXXV, pp. 99–110. C. S. Sargent.

Recently Recognized Species of Crataegus in Eastern Canada and New England. i, ii, iii, iv, v. *Rhodora*, V, pp. 52–66; 108–118; 137–153; 159–168; 182–187. C. S. Sargent.

Crataegus in Northeastern Illinois. *Botanical Gazette*, XXXV, pp. 377–404. C. S. Sargent.

Crataegus in Rochester, New York. *Proceedings of the Rochester Academy of Science*, IV, pp. 93–136. C. S. SARGENT.

Synopsis of the Genus Lonicera. In *Fourteenth Report of the Missouri Botanical Garden*, pp. 27–232. Plates 1–20. ALFRED REHDER.

I am glad to take this opportunity to again express my thanks to the Trustees of the Massachusetts Society for the Promotion of Agriculture for their annual grant of $2,500 for the maintenance of the Arboretum, and to the members of the Visiting Committee for their advice and assistance.

C. S. SARGENT, *Director*.

THE CHEMICAL LABORATORY.

To the President of the University: —

Sir, — The Laboratory suffered a most serious loss by the death on April 6, 1903, of Henry Barker Hill, Assistant in Chemistry, 1870–74; Assistant Professor, 1874–84; Professor, 1884–1903; Director, 1894–1903.

During his nine years of service as Director the number of students working in the Laboratory increased from 442 to 674, and he succeeded in providing working places for these large and increasing numbers of students throughout this period except in the years 1897, 1900, and 1901, when waiting lists in the elementary courses resulted from the neglect of his often repeated warnings. In accomplishing this task he constructed two new laboratories for the elementary course with desks for 488 students, a laboratory for advanced quantitative analysis with places for twenty-three students, and a laboratory for students in physico-chemical research. A new lecture-room was also built, and nine of the rooms in Boylston Hall were remodelled to increase or improve their accommodations. This work was done in such an excellent manner, with the invention of new forms of fixed apparatus and ingenious adaptation of means to ends, that it is a matter of deep regret he was not spared to plan a laboratory unhampered by lack of room and money.

He also introduced a new and efficient system of ventilation for the entire building, and organized the administrative work in the most satisfactory manner. Especial mention should be made of the system of book-keeping devised by him, which at the same time reduced the labor and the chances of error to a minimum.

During his long service as a teacher he showed the same enthusiasm and efficiency. Following the lead of Professor Cooke, he developed qualitative analysis into one of the best of educational disciplines; and his course in organic chemistry, his own especial field, was a model of excellence.

His services as a teacher and administrative officer were more than equalled by his achievements as a chemist, described in forty-six papers, of which two are on methyluric acid, five on smaller subjects, and the remaining thirty-nine on the derivatives of furfurane, — a field of research which he made peculiarly his own. The number of his papers does not give a fair idea of the volume of his work, as most of them are exceptionally long. All show his great qualities as a chemist, — his grasp of the subject, and power of close and logical reasoning, his uncommon experimental ability, the remarkable beauty of finish of both his experimental and literary style, and, above all, the thoroughness and accuracy which were his most striking characteristics.

The abolition of the course in general chemistry (Chemistry *B*) at the end of last year enabled the Division to secure the services of Dr. G. P. Baxter as an instructor, and to promote Dr. G. N. Lewis to an instructorship of a higher grade. As a result of this increase in the staff two new courses and two new half-courses were added, all of advanced grade, — a very profitable exchange for one very elementary course. The two full courses were one in applied chemistry by Professor Sanger (Chemistry 11), and one in advanced physical chemistry by Dr. Lewis (Chemistry 14). The two half-courses were one on photochemistry by Dr. Baxter (Chemistry 12), and a laboratory course on electrochemistry by Dr. Lewis (Chemistry 13). All of these courses were taken by as large numbers of students as could be expected. Dr. Baxter relieved Professor Sanger of the first course in quantitative analysis (Chemistry 4), and Professor Richards of the advanced quantitative analysis (Chemistry 9) and gas analysis (Chemistry 10). The teaching in quantitative analysis was in this way brought together, and placed in the hands of a specialist in this subject. Mr. O. F. Black was appointed assistant to the Director, and relieved him of a large amount of routine work. After Professor Hill's death, Mr. F. W. Russe gave the lectures in organic chemistry (Chemistry 5).

The new laboratory between Boylston Hall and the street came into use at the beginning of the year, and was very satisfactory in spite of the somewhat cramped passages necessary in order to fit the building to such a narrow lot. It interferes seriously, however, with the light of one end of the other cellar laboratory, thus rendering this room even less desirable than heretofore.

The introduction of this new laboratory provides accommodations for the present for the elementary courses (1 and 3), but, as noted in the Report of last year, this relief can be only temporary. The greatest danger now is the overcrowding of the higher electives, but the discussion of this subject belongs properly in the Report for next year.

The number of students in the several laboratory courses during the year and in June, 1902, was as follows:—

	October, 1902.	January 1st, 1903.	June 1st, 1903.	June 1st, 1902.
Chemistry 1	405	393	336	325
Chemistry 3	140	133	127	120
Chemistry 4	49	46	39	25
Chemistry 5	23	19	18	25
Chemistry 6	12	11	11	16
Chemistry 9	16	16	..	..
Chemistry 10	..	..	22	21
Chemistry 12	9	9	..	..
Chemistry 13	..	..	6	..
Chemistry 20*a*	4	4	4	4
Chemistry 20*b*	5	5	5	6
Chemistry 20*c*	2	2	2	3
Chemistry 20*d*	5	5	5	6
Chemistry 20*e*	4	4	3	5
Special	..	..	..	1
Total	674	647	578	557

The following scientific investigations were carried on during the year: Professor Hill contrived a new apparatus for taking the melting points of organic substances, by means of which more accurate results can be obtained than with the earlier forms of apparatus; and devoted much time to the invention of an electric tube furnace. With Mr. O. F. Black he brought to a conclusion his work on nitrolactic acid, a puzzling research which had occupied his attention for many years. They also discovered a new and less dangerous method of making formiminoethyl-ether; and made good progress in the study of the tribrompyrazol derived from the oxime of nitromalonic aldehyd. With Mr. F. W. Russe he studied the optical isomeres of the beta and gamma dihydrofurfurane-α-α-dicarboxylic acids. Most of these papers are ready for publication.

Professor Sanger continued with Mr. M. L. McCarthy the study of the reaction of fuming sulphuric acid on silicic tetrachloride, showing that in all probability a volatile oxychloride of silicon is formed. With Mr. J. A. Gibson he developed a method of estimating small amounts of antimony by a modification of the Berzelius-Marsh method. With Mr. A. D. Wyman he made a study of the application of the method of Kinnicutt to the determination of small amounts of carbonic monoxide. Mr. E. Mallinckrodt, Jr., completed during this year a study of the dietary of students at Randall Hall. This study, which was begun in 1901–02, was carried on with the coöperation of Professor Atwater of Wesleyan University, Drs. Sargent and Darling, and with the advice of Professor Sanger. The results show that the students under examination were doing good work on a diet which was considerably below that demanded by the so-called sedentary standard.

Professor Richards carried out a series of experiments with a new method of determining the freezing points of dilute solutions, showing that it is capable of attaining great accuracy. He devised also a new method of determining the compressibilities of liquids and solids, and with the help of Mr. W. N. Stull and Mr. F. Bonnet, Jr., applied this method to the following substances: bromine, iodine, chloroform, bromoform, carbonic tetrachloride, phosphorus, water, glass, mercury, iron, aluminum, lithium, sodium, and potassium. The results have an important bearing on the new theory of compressible atoms. Under his direction Mr. G. E. Behr, Jr., continued to study the effect of temperature and pressure on the solution-tensions of metals; Mr. K. L. Mark carried on further his work on the thermal expansion of gases under constant pressure; Mr. W. S. Hutchinson continued his work on the atomic weight of calcium; and Mr. R. C. Wells began the determination of the atomic weight of sodium, and made a detailed study of several possible sources of error in methods of analysis usually considered as among the most accurate of processes. Professor Richards received from the Carnegie Institution a grant of $2,500, for these and other researches.

Dr. Baxter continued the work on the atomic weight of iron begun some years ago, and obtained a result from the analysis of ferrous bromide which confirmed the weight previously obtained with ferric oxide. Under his direction Mr. M. A. Hines determined with great accuracy the specific gravities of fused cadmic chloride and bromide, and of fused argentic bromide; and Mr. A. B. Lamb made a similar determination of fused zincic chloride.

Dr. Lewis continued work on his new ice calorimeter, constructing and testing a new form of this apparatus. He also showed that the decomposition of argentic oxide between 300° and 350° is a self-accelerating reaction of unusual character, forming the simplest conceivable type of explosion; and he began the study of solutions in melted iodine, a new class of electrical conductors.

Professor Jackson, with Mr. D. F. Calhane, continued the study of the paraphenylenediimines. With Mr. H. C. Porter the addition compounds of tetrabromorthoquinone were investigated, and two series of bodies derived from methylalcohol were discovered. With

Mr. H. A. Carlton many derivatives of tetrachlordinitrobenzol were studied, including numerous addition compounds of trianilinochlordinitrobenzol with various reagents. With Mr. Paul S. Smith the reactions of trichlortrinitrobenzol with sodic alcoholates and sodic malonic ester were taken up; and with Mr. J. F. Langmaid a similar study was made of the triioddinitrobenzol. Both these researches threw some light on the general subject of the replacement of halogens by other radicals and hydrogen. Papers on all these subjects are ready for publication.

The following papers were published during the year: —

1. Ueber die Einwirkung von Anilin auf Tetrabromorthobenzochinon. By C. L. Jackson and H. C. Porter. *Ber. d. chem. Ges.*, XXXV, 3851.

2. The Determination of Phosphoric Acid by means of Ammonium Phosphomolybdate. By G. P. Baxter. *Am. Chem. Journ.*, XXVIII, 298.

3. Ueber Tetrachlordinitrobenzol. By C. L. Jackson and H. A. Carlton. *Ber. d. chem. Ges.*, XXXV, 3855.

4. The Universally Exact Application of Faraday's Law. By T. W. Richards and W. N. Stull. *Proc. Am. Acad.*, XXXVIII, 409 (December, 1902); also *Zeitschr. phys. Chem.*, XLII, 621 (1903).

5. An Apparatus for the Measurement of the Expansion of Gases by Heat under Constant Pressure. By T. W. Richards and K. L. Mark. *Proc. Am. Acad.*, XXXVIII, 417 (December, 1902); also *Zeitschr. phys. Chem.*, XLIII, 475 (1903).

6. The Transition Temperature of Sodic Sulphate referred anew to the International Standard. By T. W. Richards and R. C. Wells. *Proc. Am. Acad.*, XXXVIII, 431 (December, 1902); also *Zeitschr. phys. Chem.*, XLIII, 465 (1903).

7. Ueber additionelle Verbindungen des Tetrabromorthobenzochinons. By C. L. Jackson and Horace C. Porter. *Ber. d. chem. Ges.*, XXXVI, 454.

8. On the Dibromdinitrobenzols derived from Paradibrombenzol. By C. L. Jackson and D. F. Calhane. *Am. Chem. Journ.*, XXVIII, 451.

9. A Revision of the Atomic Weight of Caesium. By T. W. Richards and E. H. Archibald. *Proc. Am. Acad.*, XXXVIII, 443 (January, 1903); also *Zeitschr. anorg. Chem.*, XXXIV, 353 (1903).

10. On certain Colored Substances derived from Nitro Compounds. Fourth Paper. By C. L. Jackson and R. B. Earle. *Am. Chem. Journ.*, XXIX, 89.

11. Note concerning the Calculation of Thermochemical Results. By T. W. Richards. *Journ. Am. Chem. Soc.*, XXV, 209 (February, 1903).

12. On the Oximes of Nitromalonic Aldehyde. By H. B. Hill and William J. Hale. *Am. Chem. Journ.*, XXIX, 253.

13. On certain Derivatives of Picric Acid. By C. L. Jackson and R. B. Earle. *Am. Chem. Journ.*, XXIX, 212.

14. On Symmetrical Dinitrobenzolsulphonic Acid. By C. L. Jackson and R. B. Earle. *Am. Chem. Journ.*, XXIX, 216.

15. The Freezing Points of Dilute Solutions. By T. W. Richards. *Journ. Am. Chem. Soc.*, XXV, 291 (March, 1903); also *Zeitschr. phys. Chem.*, XLIV, 563 (1903).

16. The Inclusion and Occlusion of Solvent in Crystals. By T. W. Richards. *Proc. Am. Philos. Soc.*, XLII, 28 (April, 1903); also *Zeitschr. phys. Chem.* (Ostwald Jubelband).

17. The Changeable Hydrolytic Equilibrium of Dissolved Chromic Sulphate. By T. W. Richards and Frederic Bonnet, Jr. *Proc. Am. Acad.*, XXXIX, 1 (June, 1903); also *Zeitschr. phys. Chem.* (1904).

18. On certain Nitro Derivatives of the Vicinal Tribrombenzol. By C. L. Jackson and A. H. Fiske. *Am. Chem. Journ.*, XXX, 53.

Professor Sanger also gave an address before the New England Association of Teachers of Chemistry on "The German Potash Industry," and Dr. Baxter one on "The Chemistry of the Exposure and Development of the Photographic Plate."

The Laboratory is under great obligations to Dr. Wolcott Gibbs and Mrs. H. B. Hill for generous gifts of books for the Chemical Library.

C. L. JACKSON, *Acting Director*.

THE JEFFERSON PHYSICAL LABORATORY.

To the President of the University: —

Sir, — The number of students enrolled in the electives in Physics, November, 1903, is as follows: —

Physics 1	68	Physics 5	7
" 2	14	" B	179
" 3	37	" C	230
" 4	14	" 20	3
		Total	552

I have given the present number in order that the trend of election of physical studies for the coming year may be seen. It is noticeable that Physics *C* continues to have a large number of students. This is very gratifying, for the accurate training obtained in this course peculiarly fits the students for the higher electives, and also trains those who intend to enter the Medical School in the fundamental principles of mechanics, optics, heat, and electricity. It seems to the Director desirable that students who propose to study medicine should be advised to take Physics *C*. The marked success of this elective is due to Professor Sabine, who has devoted himself to perfection of apparatus and to the enlargement of laboratory accommodations. Much of the space once devoted to the Physical Cabinet is now largely used in laboratory work. This change is highly desirable; for the unused and historical pieces of apparatus are before the student while he is engaged in testing the physical laws which they illustrate, and old apparatus, which is apt to be lifeless in its influence to all except an antiquarian, becomes alive and speaking to the working student.

The higher electives in physics are intimately bound together with the preparatory electives in mathematics; and whatever influences the election of such mathematical courses must also have an effect upon advanced work in physics. A statistical inquiry, therefore, into higher scholarship in physics should be preceded by one into the fundamental mathematical electives.

Professor Peirce has been much occupied in making the testing apparatus in Physics 3 accurate and permanent in arrangement. In this course, the student who intends to study electrical engineering is taught the limits of error and the perception of magnitude of electrical quantities. Such training is indispensable to a student of engineering, for it cannot be obtained by working exclusively with electrical machinery. The study of refined methods should precede the approximate and comparatively rough methods of the practical workshop, for it is only by this method of procedure that one can know what to neglect, and what degree of accuracy is possible.

Professor Hall has found time, beyond the hours devoted to the elementary electives under his charge, to direct physical investigation, as is seen in the following list of scientific work.

Experience continues to show that, in general, Graduate Students acting as assistants or instructors are the most successful in pushing research work to a conclusion.

When we consider the rapid progress of Physical Science and its achievements, we are justified, I believe, in regarding it in all its relations, particularly with chemistry, as the science which has the closest relation to the problems of life. It seems therefore probable that in time its supreme importance will be recognized by endowments commensurate with those of astronomical science. There are many fields which cannot be entered by the Professors in the Jefferson Physical Laboratory on account of the outlay demanded. Among these may be mentioned researches on liquefied gases and matter at very low temperatures; investigation of the combinations produced in the electric furnace by currents of great strength,—at present currents of from fifty to sixty amperes or units are at our command; we need currents of two thousand amperes; my experience with high voltages leads me to desire to continue my researches with transformers similar to those employed at Niagara Falls. The electricians and electro-chemists employed by the great electric companies have far larger facilities than those afforded by any University laboratories, and doubtless many results are obtained in these practical laboratories which are important to the progress of science, but are buried because they have no immediate practical use. The progress of investigation of Radiations, which are constantly about us, and doubtless have an influence upon health and disease, requires rooms of constant temperature. Such rooms can only be obtained underground.

The Jefferson Physical Laboratory has one such room, ten feet beneath the surface of the basement. This room is constantly used in researches, but the limited space permits only one research at a time. A long gallery ten feet beneath the surface of the earth, with rooms opening into this gallery, would be of great use. A one-story brick building should be built over such an underground laboratory. There are many phenomena due to minute and long-continued action at constant temperature which must be studied under similar conditions which conduce to the mysterious growth of the mushroom spore. When we consider the impossibility of maintaining constant conditions of temperature and freedom from radioactive emanations in ordinary working rooms provided with windows and doors, it will be seen that permanent states of the environment cannot be obtained above ground. I do not know of such a laboratory either abroad or in this country. Such a laboratory would be unique.

In order to obtain an approximate idea of the outlay needed for work in the rapidly expanding directions of Physical Science which I have indicated, the following estimate is given: —

Apparatus for liquefying gases	$4,000
Electric furnace	10,000
Underground laboratory	20,000

The following list of work accomplished and published, or in condition to be immediately published, shows the enthusiasm in research which has been stimulated by the Thomas Jefferson Coolidge Fund for Original Research: —

1. The Spectra of Hydrogen and Reversed Lines in the Spectra of Gases. By John Trowbridge. *Phil. Mag.*, January, 1903.

2. Spectra of Gases and Metals at High Temperatures. By John Trowbridge. *Phil. Mag.*, July, 1903.

3. On Families of Curves which are the Lines of certain Plane Vectors either Solenoidal or Lamellar. By B. O. Peirce. *Proc. Am. Acad. Arts and Sciences*, 1903.

4. On the Temperature Coefficients of Magnets made of Chilled Iron. By B. O. Peirce. *Proc. Am. Acad. Arts and Sciences*, 1903.

5. On the Lines of certain Solenoidal or Lamellar Vectors Symmetrical about an Axis. By B. O. Peirce. *Proc. Am. Acad. Arts and Sciences*. 1903.

6. An Investigation in Thermodynamics, viz., C_v in Liquids and the a of Van der Waals in the Case of Water. By E. H. Hall. *Physical Review*, 1903.

7. Do Falling Bodies Move South? Parts 1 and 2. By E. H. Hall. *Physical Review*, 1903.

8. A Manometer Device for Air Thermometers. By E. Edwards, under the direction of W. C. Sabine. *Proc. Am. Acad. Arts and Sciences*, 1903.

9. Resistance Bridge for the Platinum Thermometer. By E. **Edwards**, under the direction of W. C. **Sabine**. *Proc. Am. Acad. Arts and Sciences*, 1903.

10. False Spectra from the Rowland Concave Grating. By **Theodore Lyman**. *Astro Physical Journal*, 1903.

11. Prolongation of Spectral Lines. By **Theodore Lyman**. *Astro Physical Journal*, 1903.

12. Diffusion and Supersaturation in Gelatine. By H. W. **Morse** and G. W. **Pierce**. *Physical Review*.

13. On the Cooper Hewitt Mercury Interrupter. By G. W. **Pierce**. Completed, but not yet published.

14. Influence of Occluded Hydrogen on the Electrical Resistance of Platinum. By W. E. **McElfresh**. Completed, but not published.

15. On the Relation of the Hall Effect to the Current Density in Gold. By T. C. **McKay**. Completed, but not published.

JOHN TROWBRIDGE, *Director*.

THE DIVISION OF ENGINEERING.

To the President of the University: —

Sir, — I respectfully submit the following report on the Division of Engineering for the year 1902–03. The instruction during the year has presented no new features, having been carried on very much as during the previous year, with the addition, however, of one new professor of electrical engineering, whose appointment has materially strengthened that branch of the work. Heretofore Professor Adams and Mr. Whiting have undertaken more work than they were well able to do, and the coming of Professor Kennelly will therefore enable them to spend more time in the laboratory or the library for special research. During the year, also, a large amount of machinery was purchased for the equipment of the electrical engineering laboratories. This was the gift of a graduate of the University.

In civil and mechanical engineering, the instructors still have too much work in the class-room to be able to do any research work of their own or to do any kind of work outside of the University without sacrificing the instruction. It seems almost necessary that they should be relieved to some extent before many years, both for the sake of the students and for their own advancement. During the fall and winter Professor Johnson was able to make some investigations of concrete beams and of the general application of concrete to buildings, looking towards its use in the construction of the new athletic stands. The results of the tests made in the laboratory will be published in due time.

At present the lack of money renders it difficult to extend the thesis work of the students. Nothing is more important than this in connection with advanced courses. Students who come from other colleges should be encouraged to spend much of their time in research. Their work can be directed so as to contribute materially to the profession of engineering.

The Engineering Journal, which was begun in 1901–02, is published by the engineering and architectural students of the University. It has been well conducted, and a number of useful articles have appeared in it. One of the chief difficulties, however, of maintaining such a journal is the cost of publication. The students have to depend upon advertisements to some extent to defray expenses.

During the year a large number of students in the department were college students, who had entered the University with the intention of getting the A.B. degree, and, subsequently, the degree in engineering. So long as the work of these students can be directed properly, this is a very satisfactory way of learning engineering, and it is to be hoped that it may increase from year to year.

IRA N. HOLLIS.

THE PSYCHOLOGICAL LABORATORY.

To the President of the University: —

Sir, — The principal event in the life of the laboratory during the last year has been the appearance of the first volume of the *Harvard Psychological Studies* (Macmillan). The 654 pages of the volume contain sixteen investigations carried on by the instructors and most advanced students during preceding years in the Harvard laboratory. They deal essentially with processes of perception, memory, emotion and reaction. The material for a second volume is completed, and we hope to publish it during the next year. In this volume problems of attention, space and time perception, feeling and judgment, and studies in animal psychology will stand in the foreground.

The laboratory has seen no essential changes in its equipment or in the arrangement of courses. The new half-course, given by Dr. Yerkes, on Comparative Psychology, which involves many laboratory demonstrations, has proved a most successful supplement to Dr. Holt's half-course, which is an experimental introduction into Physiological Psychology. The chief accent of the year's work lay again on research, which was carried on by the instructors and sixteen graduate students and young doctors. Four of the students, Messrs. R. P. Angier, C. T. Burnett, M. A. Shaw, D. C. Rogers, took their Ph.D. with dissertations from their laboratory research. As the work of the year was characterized by the great variety of the research work in the laboratory, it may be in order to point to the various subjects which have been under investigation. I may add that while each special research is in charge of one student, the leader needs from two to ten subjects, on whom the work is performed; and since the psychological self-observation of these subjects presupposes full training, only advanced students can be used for it. The programme is therefore arranged in such a way that every member of the laboratory carries on one investigation for himself in about half of his working time, and devotes the other half to four, five, or six different investigations in which he takes part as subject, thus becoming acquainted with a great variety of methods.

R. P. Angier studied the physiological psychology of our aesthetic pleasure in unequal divisions of space, his work being a continuation of our earlier research in equal, symmetrical divisions. Among other variations, he was led to the construction of an instrument by which it became possible to register photographically the finest movements of the eyeball continuously through a long period, and the application of this method yielded surprising results concerning a much disputed problem of psychological aesthetics. B. T. Baldwin examined the stream of associations when it was coming from two or more different sources at the same time. He studied especially how far different groups of concrete ideas of different relative strengths are starting points for a series of associations, and how far, if their strengths are equal, a mixture results, and how far an alteration of the influences. J. C. Bell worked in the animal department, his special topic being the senses of the crayfish and the formation of its habits. Chief emphasis was given to the study of the influence of light. F. P. Boswell devoted part of his time also to animal work, studying the behavior of the lower animals in the face of their image in the mirror; but his chief work dealt with certain processes of vision in men. By new, complex methods he discovered interesting phenomena of irradiation in the retina. H. C. Brown studied the cutaneous senses in certain salamanders, studying their threshold for touch and temperature in different parts of the skin, with especial reference to the general problem of circumscribed touch and temperature organs. C. T. Burnett continued his elaborate investigation in suggestion and mutual substitution of different factors in perceptional judgments, with especial reference to the judgment of number. The question was, thus, how our judgment of number can be influenced by the quantitative, and, still more, by the qualitative variations of the elements to be judged and by the subjective conditions of attention, and so on. Dr. Freedman studied the relations between aesthetic impressions and associations of ideas, thus approaching experimentally the old problem of how far beauty is dependent upon, or antagonistic to, associations. Dr. Holt devoted his interest to a number of problems in psychological optics, most of them centering in the question of how far our vision is dependent upon eye movements. This involved investigations into the nature of stereoscopic vision, into the anaesthesia during motion, and similar processes. P. A. Hutchison started upon an aesthetic problem, the relation of aesthetic impression to motor processes; but as this involved the question of inhibition of movement through simultaneous action of antagonistic muscles, he was soon led to a general experimental study of antagonistic muscle actions and their dependence upon psychical processes. Dr. Hylan continued his work on division of attention, using especially the methods of reaction-time measurement, examining to thousandths of a second the differences of reaction when the preparatory attention is divided between sight, sound, touch, pain, and so on. C. H. Johnston worked on time-perception, examining how far the subjective time-order of impressions corresponds to the objective succession of phenomena, applying a kinematoscopic method to find out whether psychical suggestion, attention, and habit can reverse the real order of quickly succeeding stimulations. J. L. Meriam was concerned with the fusion of touch sensations, examining the illusions which result from a multiple contact. The chief effort was to develop for the field of touch the psychological category of fusion, which so far had been applied only to sound and light. H. A. Miller constructed and tested a large number of devices for the study of individual psychical differences with regard to perception, memory, imagination, attention, feeling and volition,—devices intended especially for the rapid examination of school children. It was his chief aim to study the differences of race in the school population. C. M. Olmsted was engaged in a problem from the field of space-perception. It was a question of the relation between the position of the eyes and the relative size of the two retinal images, a question which leads immediately to the wider one of how far our space-perception is a peripheral or a central process. D. C. Rogers studied the motor factors in the localization of sound and their connection with the localization in the visual field, which was distorted by the use of prisms and other means. He turned later to the interrelations between the localization of sound and bodily movements. J. E. Rouse continued his observations on the emotional effects of stimulations in birds. M. A. Shaw worked on analogies between optical and tactual illusions, trying to reproduce on the surface of the skin the conditions of the well-known optical illusions of distance and direction, and thus to examine the unity of our space-perceptions. Dr. Yerkes, finally, continued his investigations on the reaction-times of the frog, giving special emphasis to the problem of inhibition by simultaneous stimulations. But at the same time he worked on the space-perception of turtles, and on the sense-reactions and behavior of several other animals. It is perhaps not superfluous to add what I said here a few years ago, that none of the animal experiments has the slightest relation to vivisection, and that no animal is brought to conditions which would not appear suitable for a student who plays the part of the subject in an investigation.

The only hindrance to our work has been the lack of room, and we are thus especially thankful that the last year saw, on the hundredth anniversary of Emerson's birthday, the completion of the collection of the $150,000 which the Corporation had determined as the minimum requirement for the building of Emerson Hall. We are thus sure to have in time a hall devoted to philosophy and psychology, a hall of which one floor will be given over to the Psychological Laboratory. But there can be no doubt that this minimum sum is insufficient for the erection of the building which the architect has planned on the basis of the moderate wishes of the department. If no further funds can be added, the plans will have to be curtailed essentially, and every sub-division, the Psychological department not the least, would feel a heavy disappointment. If the plans of the laboratory have to be reduced, the fear is justified that the improvement as to the local conditions will be only a temporary one. With a slight expansion of the work, which we hope for in several directions, the old lack of room would again interfere with our progress. We confidently hope, therefore, that before the building on Quincy street, opposite Robinson Hall and next to Sever Hall, is started next spring, at least $50,000 more will come to us from sources which appreciate the name of Emerson.

HUGO MÜNSTERBERG,
Professor of Psychology.

THE OBSERVATORY.

To the President of the University: —

Sir, — The problem of obtaining the greatest return for astronomical science from a given expenditure of money should be the principal concern of every astronomer. It is obvious that no single observatory can accomplish as much and as good work as could be done through the efforts of the entire astronomical world. The recent attempt on the part of this Observatory to secure an endowment for international astronomical research has led certain persons to infer that the present needs at Harvard are supplied. An important part of this very plan is to enable a large observatory like this, which can undertake to great advantage large pieces of routine investigation quite beyond the reach of the smaller observatories, to use its resources to the best advantage. It can coöperate with others, and thus bring the energy of many minds to bear upon a single problem. As an illustration, it is recognized that the distribution of the stars in space is one of the most important problems in Astronomy. This investigation depends on the accurate measures of the light of stars in all parts of the sky. But little work of this kind has been done on the light of the southern stars. Especial attention has been paid to photometry at this Observatory, and we have an excellent southern station where such work could be carried on to great advantage. An expenditure of one thousand dollars annually for five years would go far to provide for this want; but as the expenses here for the last year have exceeded the income, additional work cannot be undertaken. Again, the Harvard collection of astronomical photographs gives the history of the stellar universe for the last fourteen years with a completeness not attempted elsewhere; but these photographs are of little use unless a careful study is made of them. A satisfactory plan has been prepared for organizing a corps of observers at a cost of about five thousand dollars a year, for studying these photographs. The Carnegie Institution appropriated $2,500 last year for this work, but gave no assurance that it would be increased, or even continued. Results have already been obtained which show what might be expected from a permanent maintenance of this work; but if the appropriation is not continued much work will be lost, and many assistants who have been carefully trained will be obliged to seek work elsewhere. The great increase in the resources of the Observatory has not been accompanied by a similar increase in the amount of capital available for plant. Accordingly, the buildings and instruments here, purchased mainly from income, are very inferior to those of other observatories whose endowment is much less. The anonymous gift of 1902 has been of the greatest service in this respect, since it will provide two reflectors of twenty-five inches aperture, one for use on the northern, and the other on the southern stars, and has given us a fireproof wing to the building already used for storing and studying the photographs. The cost of the entire building and wing was only about $20,000, and two similar buildings would provide for a much needed new library for the Observatory, computing rooms, photographic laboratory, and a workshop. All of this work is now carried on in very inferior wooden buildings, some of them more than half a century old. Much money is also spent in strengthening floors and repairing foundations; and the danger from fire is ever present.

If the sum of $50,000 could be expended during the next ten years for such researches and buildings as those mentioned above, it is believed that a relatively large return in scientific results would be obtained. Our expenses now slightly exceed our income, and if they are cut down, a proportionately greater diminution in work will ensue. An unrestricted fund like that mentioned above would permit our present appliances to be used to the best advantage. Whatever may be the future of the Observatory, there is no doubt that a reasonable sum could be wisely expended at once, while a delay of several years may bring other conditions less favorable to effective expenditure, and will certainly cause some needs to be neglected which now seem most urgent.

Observatory Instruments.

East Equatorial.—Nearly all of the observations with this instrument have been made by Professor O. C. Wendell, and have been of the same general character as in previous years. Over fifteen thousand photometric light comparisons have been made, principally with the polarizing photometer with achromatic prisms.

The errors of observation with this instrument, for a set of sixteen settings, have an average value of from three to four hundredths of a magnitude. Deviations of a tenth of a magnitude generally indicate real changes in the star measured. The effect of color also seems less troublesome than with visual observations. About two thousand measures have accordingly been made of stars suspected of variability by other observers, and questions hitherto unsettled are thus answered with certainty. The times of minima of stars of the Algol type can be determined with a computed probable error of less than two minutes. An attempt is made to measure, every year, all stars which vary more than half a magnitude an hour, on three nights when increasing in light, and on three when decreasing in light. About six thousand measures have been made of such objects. Seven hundred measures have also been made with a second photometer adapted to the comparison of stars too near together to be measured with the first instrument. The same instrument has been used in the photometric measurement of Jupiter's satellites while undergoing eclipse. Fifteen eclipses have been observed, making the total number 751. Observations of variable stars of long period throughout their changes, and the reduction of the results to the scale of the meridian photometer have been continued; 279 estimates of faint variables and a few of comparison stars have been made by the method of Argelander.

Similar observations of variables and comparison stars have been made with the West Equatorial. With it 1,724 estimates of variables and 399 of comparison stars have been made by Miss Cannon. 3,395 estimates of variables, and 323 estimates of comparison stars have been made by Mr. Campbell with the naked eye, field-glass, and a 5-inch portable telescope. Some estimates of faint variables and photometric measurements of double stars were also made by Mr. Campbell during the month of August, with the East Equatorial. 577 estimates of variables have been made by other officers of the Observatory. 764 estimates of variables have been made by Mr. F. E. Seagrave of Providence, and communicated by him to this Observatory. Observations of variable stars have also been communicated by Professor Reed and Mr. Daniel of Princeton University, Professor Stone of the University of Virginia, Professor Mary W. Whitney of Vassar College, Miss Anne S. Young of South Hadley, Mass., Miss Louise C. Hazen of Austin, Texas, Mr. John H. Eadie of Bayonne, N. J., and Mr. Robert M. Dole of Jamaica Plain.

Meridian Circle.—The only important work of this instrument during the year has been the determination of clock error. Daily observations of this kind have been made when the weather permitted, in order to give as much accuracy as possible to the time signals. The principal observer has been Miss M. F. Michaelis.

All the columns of the catalogue of stars belonging to the zone —9° 50′ to —14° 10′ are now provisionally complete, except that current numbers are not yet assigned to the stars. The work of re-computing particular observations, in cases of large discrepancy, is also very nearly finished. The provisional residuals of the separate observations of each star from the mean values obtained for its right ascension and declination have been formed, and entered in the journals of the separate zones, and their mean value for each zone has been taken. The reductions of the fundamental stars in those zones for which these mean values are largest will be re-computed. About two thirds of the work of preparing the zone journals for printing is finished; but the provisional values may need later corrections.

The reductions of the observations made by the late Professor Rogers, during the years 1879 to 1883, have been continued by Miss S. C. Bond under the supervision of Miss Anna Winlock. About two thirds of the reductions to apparent place for the individual observations are completed, and the values of the inclination, about 2,000 in number, have been grouped in declination.

12-inch Meridian Photometer. — With this instrument 71,992 settings have been made by the Director on 143 nights. In all, 337,596 settings have been made in five years. The principal work has been the completion of the observations required in the researches undertaken in previous years, and the measurement of all the Durchmusterung stars in zones 10′ wide, north of declinations — 5° and — 15°. A beginning has been made of the observations of stars in similar zones south of + 5°, + 15°, and + 25°. This work will supplement that already completed at declinations — 20°, — 10°, 0°, + 10°, etc. Measures have also been made of sequences of stars from the eighth to the thirteenth magnitude, in twenty-three coarse clusters, to determine the absolute magnitudes of the components of these objects. By interposing a shade glass so as to reduce the light of the star, any star however bright could be measured. Faint stars were selected near the ten brightest stars, and measures of all were made on ten nights. Sirius and a twelfth magnitude star were thus measured successively.

Another modification of the instrument permitted surfaces to be measured. 2,672 settings were made to determine the light of the sky, in the daytime, during twilight, and at night, the light of the different portions of the Moon, and of the sky at different distances from it. A range of more than seventeen stellar magnitudes was obtained, or lights were compared, some of which were about seven million times as bright as others. The average deviation of the settings was about four hundredths of a magnitude, or only one-half that of similar measures of stars.

On May 25, 1903, the Director made his one millionth photometric setting, having made 39,796 settings with the 2-inch, 643,308 with the 4-inch, and 316,896 with the 12-inch meridian photometers. Observations with the 15-inch equatorial, some of which are discussed in Volume XI of the Annals, and early photometric measures of eclipses of Jupiter's satellites, extending over fifteen years, are not included in this count.

HENRY DRAPER MEMORIAL.

The number of photographs taken with the 11-inch Draper telescope was 467, making 14,487 in all with this instrument; with the 8-inch Draper telescope, 1,680, making the total number 30,978. The entire number of photographs of the stars taken at Cambridge during the year is 5,130. Eight eclipses of Jupiter's satellites, and five occultations, have been successfully photographed with the 11-inch Draper telescope. Four variable stars have been found by Mrs. Fleming, and one by Miss Breslin, from the examination of the Draper photographs.

Owing to the pressure of other work during the daytime Mrs. Fleming has not been able for some time to continue the classification of the spectra for the Southern Draper Catalogue. Suitable arrangements have accordingly been made so that she is now doing this work at her home in the evening. In this way she has classified the spectra and measured the light of 3,506 stars. These stars are all south of declination — 60°. It is hoped shortly to complete this zone, and to publish the results as a catalogue which will contain nearly all the stars photographically brighter than the ninth magnitude. The determination of the magnitudes and positions of the comparison stars for the variables discovered here has proved a larger work than was anticipated. The catalogue will contain nearly four thousand stars, of which more than half are now in print. A large part of the time of the entire corps of computers has been devoted to this work, and to the ledgers showing the changes in light of these variables during the last fifteen years. The results will occupy two and perhaps three volumes of the Annals. Besides the routine work involved in the identification, cataloguing, and care of the plates, the spectra of many known variables have been determined, and the stars in the Revised Harvard Photometry, too faint to appear in Volume XXVIII, are now being classified.

The general plan of taking the photographs, as described in previous reports, has been maintained under the direction of Mr. King.

Photographic observations of the Lunar eclipse of October 16, 1902, were interrupted by clouds. Visual observations by Mr. C. M. Olmsted showed a diminution of about eleven magnitudes in the light of the Moon during totality, or that the light of the eclipsed Moon was about equal to that of a star of the magnitude zero. Among other photometric investigations of plates it was found that a reduction of temperature from 70° to 0° F. increased the sensitiveness of plates by about half a magnitude. A stereo-comparator was constructed, and gave satisfactory results. Photographic charts have been made here of the regions of asteroids which have not been observed elsewhere during the last three years. Several asteroids have thus been found, but owing to the faintness of the greater portion of these objects the 8-inch Draper telescope, which was the instrument employed, is hardly large enough for this work.

Boyden Department.

The station at Arequipa has remained under the charge of Professor Bailey. The number of photographs taken with the 13-inch Boyden Telescope is 138, making 10,768 in all; and with the 8-inch Bache Telescope it is 1,899, making 32,647 in all. The total number of photographs of the stars taken during the year is 3,638. Measures have been made on 21 nights, with the meridian photometer, mainly in extending to the South Pole the system of bright standard stars, one in each ten degrees square, of which a part is contained in Volume XLVI, Chapter II. Many measures were also made with the Rumford Photometer attached to the 13-inch Boyden Telescope. Notwithstanding its faintness, the variations in the light of Eros have thus been measured by Professor Bailey from March 30 to August 19. Excellent curves have been obtained which show a variation in the range from about half a magnitude to a magnitude. 539 observations of 50 southern variables have been made, besides a careful study of their comparison stars. The dome of the 13-inch telescope has been repaired and remodelled, and arrangements have been made for the installation of electric lighting.

Bruce Photographic Telescope.

The number of photographs taken with the Bruce Photographic Telescope is 413, making 6,587 in all. Although these plates are difficult to handle and liable to be broken owing to their size, which is 14 by 17 inches, yet they are proving extremely useful, since by their aid stars may be studied which are much too faint to be photographed with our other instruments. The scale also permits positions to be determined much more accurately than with smaller instruments. 42 of these plates had exposures of one hour, and showed the spectra of the stars, the remainder were chart plates, of which 17 had exposures of four or five hours, 66 of one hour, 166 of ten minutes, 87 were of the planet Eros, and 35 were miscellaneous. Mr. Frost, from an examination of 18 photographs, found 37 nebulae not contained in Dreyer's Catalogue. On one plate he counted 10,926 stars in one square degree.

BLUE HILL METEOROLOGICAL OBSERVATORY.

The Blue Hill Meteorological Observatory, directed by Mr. Rotch, continues to be maintained at his expense. Mr. Arthur E. Sweetland, who had been the youngest assistant during seven years, died in May, and Mr. Lewis A. Wells was appointed in his place. Data for the upper air were collected in fifteen kite-flights, of which twelve were the monthly ascensions in the international series. The average height above the sea, attained by the meteorograph, for all the flights was 6,450 feet, and the greatest height in any flight was 12,070 feet. The observations obtained with the kites during 150 flights from 1897 until 1902, on Blue Hill and the Atlantic Ocean, are contained in Volume XLIII, Part III, of the Annals, as is also a discussion by Mr. Rotch of the effect of Meteorological Conditions upon Audibility. It is planned to discuss the observations of optical refraction in the lower atmospheric strata, that have been made on Blue Hill, with reference to their meteorological conditions. The reconstruction of the Observatory, mentioned last year as in progress, is completed. On the interior frieze of the new library are placed copies of the bas-reliefs on the Tower of Andronikos Kyrrhestes at Athens, representing the eight allegorical figures of the winds. The 4,400 volumes and 3,400 pamphlets contained in the library render it one of the most complete meteorological collections in this country.

MISCELLANEOUS.

Library. — The Library of the Observatory has been increased by 390 volumes and 1,455 pamphlets. The total numbers of volumes and pamphlets in the Library on October 1, 1903, were 10,759 and 18,634, respectively. An unsuccessful attempt has been made, during the past year, to obtain a fireproof building for the Library. The increasing value of this collection, now one of the most complete of its kind in the country, and the danger of injury or destruction in its present contracted quarters render this need a very urgent one. A suitable detached building could be erected for twenty thousand dollars, or a second wing could be added to the building in which the photographs are stored, for a smaller sum. Such a building would be especially suitable as a memorial.

Telegraphic Announcements. — During the last year 32 bulletins have been issued, making 143 in all. The bulletins are sent gratuitously to all such institutions, newspapers, and individuals as desire them and are likely to make use of them. In general, when a cipher telegram is received at the Observatory, it is translated, printed by an autographic process upon the bulletin sheets, and mailed within an hour of the receipt of the original message. Several persons are prepared to take charge of the distribution, so that in the absence of one, another is available. Of the messages distributed this year, eight were received from Professor Kreutz, Kiel, five from the Lick Observatory, three from Mr. John Ritchie, Jr., two from Mr. Seagrave, one each from eight other sources, and five originated from this Observatory. The distribution of the announcements by telegraph is continued to subscribers who wish to pay for the messages.

Astronomers are requested, as heretofore, to send announcement of their discoveries to this Observatory for transmission to the observatories of Europe and America. To secure prompt attention, it is requested that all cablegrams be addressed "Observatory, Boston," and all telegrams "Harvard College Observatory, Cambridge, Mass." All correspondence relating to telegrams and announcements should be addressed to the Director.

Publications. — Volume XLIV, Part II, and Volume XLVIII, Nos. 2, 3, and 4, have been printed and distributed. Volume XLVI, Part I, Observations with the Meridian Photometer during the years 1899–1902; Volume XLVIII, No. 5, Distribution of Stars; No. 6, Observations of Eros with the Meridian Circle; No. 7, Observations of Nova Persei No. 2 with the Meridian Circle; No. 8, Intensity of Atmospheric Lines in the Solar Spectrum, and Volume LI, A Photographic Atlas of the Moon, are nearly ready for distribution. 97 pages of Volume XLIII, Part III, Observations and Investigations made at the Blue Hill Meteorological Observatory in the years 1901 and 1902; 9 pages of Volume XLVI, Part II, Observations of Variable Stars made with the Meridian Photometer during the years 1895–1898; 30 pages of Volume XLVII, Photographic Study of Variable Stars; 56 pages of Volume XLIX, Photometric Observations made with the East Equatorial; and 21 pages of Volume LII, Photometric Observations of Jupiter's Satellites, are in type. The first forty-five volumes of the Annals are therefore completed with the exception of Volumes XXXIX and XLIII. The later volumes to LII have been begun, with the exception of Volume L.

The Revised Harvard Photometry, a catalogue giving the photometric magnitudes of about nine thousand stars, is now approaching completion. All stars in any part of the sky and of the magnitude 6.5 and brighter in any of our photometric catalogues are included. The magnitude of each star will be shown according to each photometric catalogue, whether published here or elsewhere, also its various designations and its class of spectrum. These magnitudes can now be furnished to any astronomer who needs them, and it is expected that in a few months the catalogue will be in the hands of the printer.

The best method of placing the results represented by our photographs in the hands of astronomers is a serious question. Photo-engravings of enlargements of the original negatives are very expensive, and besides reproducing the defects in the original photographs add others of their own. Far more can be shown per square inch on a glass negative than on a paper print. The photographs taken with the Arequipa and Cambridge Anastigmatic lenses cover regions rather more than 30° square on an 8 x 10 plate. Although the aperture but little exceeds one inch, stars as faint as the twelfth magnitude are obtained with exposures of about sixty minutes. Fifty-five of these negatives were selected, covering the entire sky. Contact prints were made from these, and printing from them gave sets of negatives closely resembling the originals, except that the stars were larger and more easily seen. These sets, covering the entire sky, and showing stars down to about the twelfth magnitude, were then offered to astronomers for $15.00, or less than the original cost. The deficit has been charged to the Advancement of Astronomical Science Fund of 1902.

Eight circulars have been issued during the year. The numbers, titles, and dates, are as follows: —

66. Miscellaneous Results, No. 1. October 1, 1902.
67. The Total Lunar Eclipse of October 16, 1902. November 17, 1902.
68. Transparency of Comet 1902b. January 27, 1903.
69. Grant from the Carnegie Institution. January 26, 1903.
70. Nova Geminorum before its Discovery. April 3, 1903.
71. A Photographic Map of the Entire Sky. May 19, 1903.
72. Intensity of Spectral Lines. July 29, 1903.
73. Opposition of Eros (433) in 1905. September 12, 1903.

Of the publications described above, the Annals furnish the official and final publication of the results of the work of the Observatory.

The Circulars are at first sent mainly to editors of astronomical periodicals, and to others who are likely to reprint or otherwise bring them to the notice of astronomers. A general distribution is made later, so that they thus serve the purpose of reprints from periodicals. The Bulletins described under Telegraphic Announcements are intended to supplement the notices of discovery telegraphed to astronomers. They furnish additional and fuller information, and are sent promptly and free of cost to every one who wishes to use them. An attempt is made to observe a large number of variable stars of long period at least once a month, by coöperation with the astronomers mentioned on page 251. The concluded magnitude of each variable for the tenth of each month is sent to the observers taking part in this work. Several of these compilations have been printed in Popular Astronomy, X, 443; XI, 52, 99, 213, 271, 339, and 403.

Besides these publications and the reprints, extracts, and notices of them, the following minor publications have been made by the officers of the Observatory: —

Fifty-seventh Annual Report of the Director of the Astronomical Observatory of Harvard College. Cambridge, 1902.

The Leonids. By W. H. Pickering. *Popular Astronomy*, X, 400.

Lunar Phenomena in October. By W. H. Pickering. *Ibid.*, X, 419.

Bright Star-like Point on the Moon. By W. H. Pickering. *Ibid.*, X, 497.

The Leonids. By W. H. Pickering. *Ibid.*, XI, 16.

A Standard Scale of Telescopic Observations. By W. H. Pickering. *Ibid.*, XI, 113.

Relation of the Moon to the Weather. By W. H. Pickering. *Ibid.*, XI, 327.

The Endowment of Astronomical Research. By Edward C. Pickering. Cambridge, 1903.

The Algol Variable 4,1903 Draconis. By Edward C. Pickering. *Astron. Nach.*, CLXII, 31.

EDWARD C. PICKERING, *Director.*

THE MUSEUM OF COMPARATIVE ZOÖLOGY.

To the President and Fellows of Harvard College: —

During the past academic year the regular courses in Zoölogy were given in the Museum, this being the first year that this department has enjoyed complete possession of the rooms formerly occupied by the Department of Geology, now finally housed in the new southwest corner-piece, — the Geological Section of the University Museum.

Eleven courses in Zoölogy were given by Professors Mark, Jackson, Parker, Castle, and Dr. Rand, assisted by Messrs. Carpenter, Cushman, Peters, Smith, and three sub-assistants. These courses were attended by two hundred and seventy-one students. Three courses were given to nineteen students of Radcliffe College.

Seventeen courses under the Department of Geology were given by Professors Shaler, Davis, Jackson, Ward, J. B. Woodworth, and Dr. Jaggar, assisted by Messrs. Cushman, Goldthwait, Read, and Wilder. Five hundred and fifty-nine students attended these courses. Five courses were attended by forty-five students of Radcliffe College.

The year has been an eventful one in the number and value of the collections acquired by the Museum. Chief amongst these are the collections of recent and fossil insects of Mr. S. H. Scudder. In transferring his collections to the Museum at this time Mr. Scudder has anticipated a clause in his testament by which these collections are bequeathed to the Museum. No gift of such importance and scientific value, representing as it does the life work of one of the foremost students of systematic entomology, has come to the Museum for many years. Mr. Scudder's gift was acknowledged by the Faculty of the Museum at a meeting held July 9.

The large and valuable Bryant collection of birds which was on deposit in the Museum has been formally and unconditionally presented by Mr. Henry Bryant Bigelow. The importance of this acquisition to our ornithological collections is recognized in Mr. Brewster's report.

From Mr. Thomas Barbour we have received an extensive and important collection of alcoholic reptiles and batrachians, the private collection of the donor. This gift is of especial value as it fills many gaps in our series. The Museum is also indebted to Mr. Barbour in many other ways. It is a pleasure to note here the increasing interest taken in the Museum by those students of Harvard University attending courses in the building, as shown by their gifts and additions to its collections.

From the estate of the late John Bellows, Esq., of Gloucester, England, has been received a series of Devonian and Carboniferous corals bequeathed by him to the Museum. This collection consists of upwards of one hundred and fifty lots of polished sections showing structural details, many of them of extreme beauty.

A valuable series of palaeozoic fishes obtained from various sources in Europe by Dr. Eastman has been received from Mr. Agassiz. This accession supplements the extensive collections of fossil fishes in the Museum. For comparison in his studies of the elevated reefs and limestones of the Pacific Islands there has been received through Mr. Agassiz from the Coral Reef Committee of the Royal Society a series of samples of the core from the deep boring made by Professor David on the atoll of Funafuti.

The reports of the different departments show minor gifts and accessions from many sources.

Owing to many petty acts of vandalism perpetrated by the lawless element of the ever-increasing numbers of public visitors, the Museum Committee has employed a uniformed watchman to patrol the exhibition rooms during the hours when the Museum is open to the public. The salutary effect of this is felt throughout the different sections of the University Museum.

By the appointment of Mr. George Nelson as Preparator, the Museum has satisfied a great need and secured a competent and zealous helper.

Notable changes have been made in some of the exhibition rooms. The Tertiary, Quaternary, and Jurassic Rooms have been completely cased, heavy plate-glass the full height of the cases being employed, thus avoiding the obtrusive sash bars of the cases in the older exhibition rooms. In two of the rooms plate-glass screens forty feet in length have been constructed, behind which the larger fossil vertebrates are grouped. The exhibits in these rooms are in process of installation. In the hallway of the main entrance on the second floor a large case has been constructed to contain an exhibit of apparatus used in the investigation of the ocean, such as sounding machinery, deep-sea nets and trawls, dredges, etc.

The arrival of a superb specimen of the giraffe from Rowland Ward has necessitated a radical change in the African Room. The three floor cases which contained the larger mammals have been removed, and a single large plate-glass case with a monitor top, eighteen feet in height, erected in its place. The effect is pleasing and dignified, and adds much to the attractiveness of one of the most interesting of the faunal exhibits. It is hoped to install such large central cases in others of the faunal rooms.

The Pacific Room has received many important additions in birds from the Hawaiian and Galapagos Islands, and many minor exhibition specimens have been distributed throughout the Museum, chief amongst which are the mounted turtles and reptiles in the North American Room, the work of Mr. Nelson.

Dr. T. Wayland Vaughan visited the Museum to examine the extensive collections of limestones from the Pacific Islands, brought together by Mr. Agassiz, with a view to preparing a report on the fossil corals. The material selected by him has been forwarded to Washington. Professor C. L. Edwards and his assistant spent several days in Cambridge studying the collections of Holothurioidea. The palaeozoic starfishes loaned to Dr. Suchert have all been returned.

The Library report of Mr. Henshaw shows the accessions for the year to be 9,147 volumes, parts of volumes, pamphlets, and maps, nearly doubling in number the accessions registered in the last report. The total number of volumes now in the Museum Library is upwards of 38,000, and of pamphlets upwards of 30,000. This great increment is due in a measure, as Mr. Henshaw points out, to parts of the Hagen and Whitney libraries not hitherto catalogued. In speaking of the Library, I must here again call attention to its increasing demands upon the general funds of the Museum for its maintenance in the interests of the students of the University and Radcliffe College. Library funds are much needed for books, binding, and salaries.

The Museum publications of the year include thirteen numbers of the "Bulletin," with 749 pages and 48 plates, and two numbers of the "Memoirs," with 457 pages and 241 plates, — an increase of 462 pages and 173 plates as compared with the publications of last year. The two "Memoirs" are reports on the Results of Mr. Agassiz's Tropical Pacific Expedition (Nos. IV and V). Two numbers of the "Bulletin" are upon geological results of Mr. Agassiz's Fiji Expedition and one upon his expedition to the Maldive Islands. Volumes XXXIX, XLI, XLII, XLIII, XLV of the "Bulletin," and XXV, XXVI, XXVII, XXIX, and XXX of the "Memoirs" are now in course of publication.

A gift of particular interest is an early oil portrait of Professor Louis Agassiz, the founder of the Museum, presented by Captain

C. H. Davis, U. S. N. There has been hung in the hall of the main entrance a portrait of Mr. Alexander Agassiz by Lefebvre, a bronze tablet under which bears this inscription: — *Alexander Agassiz. This memorial of his great services to Science and the University given by his friends and placed here by special vote of the President and Fellows and Board of Overseers,* — a welcome and fitting gift, a proper tribute. A portrait of the late Sturgis-Hooper Professor of Geology, Josiah Dwight Whitney, by De Camp, has been presented by his family and hangs in the main room of the geological library. The Museum now possesses more than two hundred and fifty framed portraits of distinguished zoölogists and geologists, and many more that have not been hung are stored in the library and the offices. From Sella and Dr. Fritz Benesch of Vienna has been received an important collection of photographs of the Dolomite region.

W. McM. WOODWORTH,
Keeper of the Museum.

THE ZOÖLOGICAL LABORATORY.

To the President of the University: —

Sir, — The courses in Zoölogy were not materially altered from those given in the preceding year, though the laboratory exercises were in some cases considerably changed. The number of students in the several classes from the various departments of the University during the year 1902–03 is shown in the following table, the numbers printed in italics indicating students from the Lawrence Scientific School: —

Courses. 1902–03.	Grad.	Sen.	Jun.	Soph.	Fresh.	Spec.	Bussey.	Total.
Zoölogy 1	2	12+*2*	20+*4*	31+*10*	41+*12*	5+ *7*	1	112+*35*=147
" 2	2	3+*1*	3+*2*	13+*10*	3+ *2*	1+ *2*	..	25+*17*= 42
" 3	3	3	4+*6*	3+ *1*	. . .	+ *2*	..	13+ *9*= 22
" 4	3	2	1+*1*	. . .	. . .	+ *2*	..	6+ *3*= 9
" 5	2	2	1+*1*	. . .	. . .	+ *3*	..	5+ *4*= 9
" 9	1	1	. . .	. . .	. . .	. .	..	2 = 2
" 9*a*	. .	1	. . .	. . .	. . .	. .	..	1 = 1
" 10	3	1	. . .	. . .	. . .	+ *1*	..	4+ *1*= 5
" 13	5	2	+*3*	1	. . .	+ *1*	..	8+ *4*= 12
" 16	4	2	+*1*	1+ *1*	. . .	+ *1*	..	7+ *3*= 10
" 20	8	1+*1*	+*2*	. . .	. . .	. .	..	9+ *3*= 12
Sums	33	30+*4*	29+*20*	49+*22*	44+*14*	6+*19*	1	192+*79*=271

The following table shows in a similar way the number of students of Radcliffe College taking courses in Zoölogy: —

Courses, 1902–03.	Sen.	Jun.	Soph.	Spec.	Total.
Zoölogy 1	2	5	3	2	12
" 2	2	3	. . .	. . .	5
" 3	. . .	. . .	2	. . .	2
Sums	4	8	5	2	19

Aside from ordinary revision, the lectures in Zoölogy 1 were the same as those given in 1901–02; but a change was made in the laboratory exercises by devoting half an hour at the beginning of each three-hour period to a quiz on the subject matter of the exercise and a brief exposition of the work about to be entered upon.

In Zoölogy 2, given by Dr. Castle, the third optional hour for lectures was used for about half of the time. Two changes were made in the laboratory work: for the study of the clam was substituted, with noticeable advantage, that of the squid; and the study of vertebrate anatomy, hitherto pursued on the frog alone, was supplemented by the examination and drawing of typical cross sections of Amblystoma. It is proposed to add next year the same treatment of Amphioxus. A study of the metamorphosis of the frog was omitted this year. A voluntary excursion to the seashore was participated in by about one-third of the class.

Dr. Rand largely revised his lectures in Zoölogy 3, but the laboratory work was not much modified from that of the preceding year. With the assistance of the Department Janitor, Mr. M. Reitz, a beginning has been made in preparing skeletons of some of the Vertebrates studied, so that each student may have a set for study without the loss of time involved in making his own preparations. It is proposed to increase this collection till it fully meets the needs of the whole class.

The laboratory work in Zoölogy 4 was supervised by Dr. Rand, and was as usual on the leech Glossiphonia. There were a few lectures by Dr. Rand on the anatomy and histology of this animal; the remaining lectures were on technique, including bibliographic methods; but owing to want of time methods of reconstruction were omitted.

In Zoölogy 5 the laboratory work was on the development of the chick during the first four days of incubation, and was conducted by Dr. Rand. The lectures, by Professor Mark, covered about the same ground as in previous years.

The number of lectures in Zoölogy 9, given as usual by Professor Jackson, was somewhat increased over that of last year, the optional hour being nearly always made use of.

In Zoölogy 9*a* the work was chiefly on young stages of living and fossil mollusks.

The lectures in Zoölogy 10 covered the same ground as in 1900–01, when they were last given; especial attention, however, was given by Dr. Castle to questions of sex and its relation to heredity. In the second half-year the influences of chemical and physical agents on protoplasm and its activities were considered. A number of problems connected with heredity, variability, and the influence of environment have been studied by different individuals in this course, and the results of some of these researches will be published.

Zoölogy 13 was conducted by Professor Parker, and covered the same ground as in 1901–02. It is intended to broaden the course somewhat next year to include sustentative tissues, so that it will be a course in comparative histology, as was originally proposed.

As usual, special topics for investigation were assigned by Professor Parker to the students in Zoölogy 16. The topics were chiefly on sensory organs and their functions. The results of several of these studies will be published. The lectures were substantially the same as those delivered in 1901–02.

The supervision of students engaged in researches (Zoölogy 20) was divided, as proposed in the last report, among the older instructors of the department. Of the twelve students engaged in research, seven worked under the guidance of the Director, two each under Professor Parker and Dr. Castle, and one under Professor Jackson. Additional time for the research work was in a few instances gained by allowing the student to meet the laboratory requirements in some of the formal courses (Courses 10 and 16) by devoting his laboratory time to the topic of his investigation. In all cases satisfactory progress was made with the work, and the results of several of the studies are ready for publication; indeed, two preliminary papers have already been issued as Nos. 142 and 144 of the Contributions from the laboratory, — the former embodying some of the results of breeding experiments carried on for some time by Dr. Castle, or under his guidance; the latter some important histological results arrived at under the supervision of Professor Parker.

Owing to delays in the reproduction of plates, the papers by Dr. Hall, Dr. Breed, Mr. Sargent, and Mr. Lander have not appeared, but they will be published in the course of a few weeks.

In June, 1903, the degree of Doctor of Philosophy was conferred on Mr. Amos W. Peters, whose thesis was on "Metabolism and the Reaction of Division in Protozoa." Dr. Peters has been appointed Instructor in Zoölogy at the University of Illinois.

Professor Parker, besides devoting much time and energy to editorial work, has prepared two papers which have been issued as Nos. 138 and 143 of the Contributions. Dr. Castle has published two papers on an important subject, heredity, and has shared in the authorship of a third. These, too, have appeared in the Contributions, being Nos. 136, 137, and 142. It is a pleasure to note in this connection the promotion of Dr. Castle to be Assistant Professor of Zoölogy.

Dr. C. W. Prentiss, who has held for two years a Parker Fellowship, has been carrying on his studies at the Naples Station and at the University of Strassburg, and has published the following papers: "Ueber die Fibrillengitter in dem Neuropil von Hirudo und Astacus und ihre Beziehung zu den sogenannten Neuronen." Arch. f. mikr. Anat., Bd. 62, pp. 592–606, Taf. 26. Juli, 1903. "The Neurofibrillar Structures in the Ganglia of the Leech and Crayfish, with especial reference to the Neurone Theory." Jour. Comp. Neurol., Vol. 13, No. 3, pp. 157–175, pls. 5, 6. October, 1903. He has been appointed to a position in Adelbert College, Western Reserve University, to do the work of the Professor of Zoölogy during a year's leave of absence.

Nine instructors and advanced students carried on work at Wood's Hole during the summer of 1903, eight at the U. S. Fish Commission Laboratory, and one, as holder of a Carnegie Table, at the Marine Biological Laboratory, Wood's Hole. Of these, eight have received aid from the Humboldt Fund aggregating $160.71.

Mr. Samuel H. Scudder has given to the department a considerable number of valuable optical, drawing, and dissecting instruments which have been used by him in his scientific work.

Through the interest and generosity of a few friends of the department, money was secured for the construction of a small number of aquaria, both for salt water and fresh water. These are each five feet long, and are located in the basement room, wholly above ground, under the zoölogical laboratories. The water, fresh as well as salt, is stored in three subterranean cisterns of concrete, holding each about fifteen hundred gallons. From these it is pumped by compressed air into wooden reservoirs, — being at the same time aerated, — whence it is led through wooden pipes to the aquaria. The overflow from the aquaria percolates through sand filters back into the cisterns. The water nowhere comes in contact with metal. The pumping is done by a one-horse-power electric motor. The planning and supervision of construction has taken much of the spare time of the Director, who has had the valuable assistance of Professor Burke of the Engineering Department.

During the latter part of April Professor Mark, in company with Professor Bristol of the University of New York, made a visit to Bermuda on the invitation of the Bermuda Natural History Society, for the purpose of gaining information as to the desirability of establishing a permanent biological station for research on the islands. The conditions appeared so favorable, and the offers of the Society so generous, that it was decided to raise money for the equipment of a temporary laboratory. An invitation was sent out late in the spring (May) to biologists to avail themselves of the opportunity. The laboratory was opened on the 22d of June, and closed on the 21st of August. There were thirty-four persons enrolled, fourteen of whom were or had been connected with Harvard University or Radcliffe College. The others came from parts of the country as widely separated as New England, Kansas, Minnesota, and Mississippi. Two of these persons received aid amounting to $57.86 from the income of the Humboldt Fund. Many of the collections were brought to Cambridge, and the results of the investigations will be published in various journals.

The meetings of the Zoölogical Club were held on Monday afternoons throughout the year. The average attendance was between seventeen and eighteen. The papers read and topics discussed were announced in the University Calendar.

CONTRIBUTIONS FROM THE ZOÖLOGICAL LABORATORY FOR THE ACADEMIC YEAR 1902–03.

135. STRONG, R. M. — The Development of Color in the Definitive Feather. *Bull. Mus. Comp. Zoöl.*, Vol. 40, No. 3, pp. 145–185. 9 pls. October, 1902.
136. CASTLE, W. E. — Mendel's Law of Heredity. *Proc. Amer. Acad. Arts and Sciences*, Vol. 38, No. 18, pp. 533–548. January, 1903.
137. CASTLE, W. E. — The Heredity of Sex. *Bull. Mus. Comp. Zoöl.*, Vol. 40, No. 4, pp. 187–218. January, 1903.
138. PARKER, G. H. — The Optic Chiasma in Teleosts and its Bearing on the Asymmetry of the Heterosomata (Flat Fishes). *Bull. Mus. Comp. Zoöl.*, Vol. 40, No. 5, pp. 219–242. 1 pl. January, 1903.
139. MARK, E. L. — A Paraffine Bath heated by Electricity. *Amer. Nat.*, Vol. 37, No. 434, pp. 115–119. 3 figs. February, 1903.
140. ADAMS, G. P. — On the Negative and Positive Phototropism of the Earthworm Allolobophora fœtida (Sav.) as determined by Light of Different Intensities. *Amer. Jour. of Physiol.*, Vol. 9, No. 1, pp. 26–34. 2 figs. March, 1903.
141. PRENTISS, C. W. — Polydactylism in Man and the Domestic Animals, with especial Reference to Digital Variations in Swine. *Bull. Mus. Comp. Zoöl.*, Vol. 40, No. 6, pp. 243–314. 22 pls. and 26 figs. April, 1903.
142. CASTLE, W. E., and ALLEN, G. M. — The Heredity of Albinism. *Proc. Amer. Acad. Arts and Sciences*, Vol. 38, No. 21, pp. 601–622. April, 1903.

E. L. MARK, *Director.*

DEPARTMENT OF GEOLOGY AND GEOGRAPHY.

To the President of the University: —

Sir, — As Chairman of the Department of Geology and Geography, I have the honor to submit the following report for the year 1902–03.

The only changes of note in the instruction given during the year 1902–03, as compared with that of the preceding year, were the addition of a new whole course in Palaeontology (Geology 11), given by Professor R. T. Jackson, which replaces the half-course in Palaeontology formerly designated as Geology 14*a*, and the addition of a new research course in Climatology (Geology 26), given by Professor Ward.

Five summer courses in Geology and Geography were given in 1903. The elementary course in Geology (S 1) was in charge of Professor J. E. Woodman, of Dalhousie College, Halifax, N. S., a Harvard Ph.D. in Geology, and formerly Assistant in Geology at Harvard. Professor Shaler gave several lectures in this course. The number of students was twenty-one.

Geology S 2, an advanced summer field course, was conducted by Professor Woodworth in the regions at Utica and Catskill, N. Y., and Meriden, Conn. The course was taken by four students. Mr. H. O. Whitnall, Instructor in Geology at Colgate University, gave valuable assistance to the party in the work in New York State. Professor Woodworth made, for the Geological Laboratory, a collection of trimmed hand specimens of the strata passed over.

In Geology S 3, a course in advanced field work, instruction was given by several officers of the Division, one student being regularly enrolled.

Particular attention deserves to be called to the new summer course of Geological Field Work in the Rocky Mountain Region, which was given for the first time during the past summer by Mr. C. H. White, Instructor in Mining. The course was taken by thirteen students, of whom seven were students in Harvard University, two being graduates. Of the remaining six, two were instructors in Geology in other colleges; two were graduate, and two undergraduate, students in other colleges. Five weeks were spent in the high mountains of southwestern Colorado (San Juan Mountains).

During half of this period the camp was at an elevation of more than 11,500 feet. It is a great satisfaction to be able to report that there was no sickness or accident during the five weeks of the course. Upwards of 100 square miles were studied in detail, and mapped, and many hundreds of miles were observed in reconnaissance.

The usual summer course in Elementary Physiography, attended by forty-one students, was given by Mr. Henry T. Burr, now of the State Normal School, New Britain, Conn., formerly an Assistant in the Department, and Mr. F. M. Wilder.

After one full year's use of the spacious and convenient laboratories and lecture rooms in the new southwest corner-piece of the Museum, the hope of the officers of the Department, that their own work and that of their students would, under the new conditions, be done more effectually and more systematically than before, has been fully realized. The statement made in last year's Report can but be repeated, with added emphasis, that it is impossible to overestimate the value to this Department of the new wing of the Museum.

In the course of the year the large model of Boston, deposited in the Museum by the Commonwealth of Massachusetts, was fitted with a plate-glass case and was opened to the public on May 1st, in the new Geological Exhibition rooms, as the nucleus of a geological collection. Other objects secured for the Museum are a valuable collection of relics from the ruined city of St. Pierre, in Martinique, and a large suite of specimens from the Caribbee Islands, collected by Professor Jaggar. The Department now has in hand a comprehensive plan for the proposed geological and geographical exhibits.

In November and December, 1902, four illustrated public lectures were given in the new Geological Lecture Room by Professors Davis, Wolff, Ward, and Dr. Jaggar, and in July, 1903, during the convention of the National Educational Association, the laboratories of Geology, Physiography, and Meteorology were opened to all who wished to inspect the teaching equipment and facilities. Two public lectures were also given at that time by Professors Woodworth and Ward.

Professor Shaler gave his courses along the same lines as in previous years.

The instruction given by Professor Davis has, as during recent years, consisted of a whole course in advanced Physiography and a half-course of intermediate grade. The latter was upon the United States, in which the laboratory work on charts, maps, and folios was, with the assistance of Mr. Read, developed to a much more satisfactory stage than heretofore. In the advanced course the principal problems discussed were: Piedmont fluviatile plains, the meanders of the Mississippi, the geographic features of extinct glacial lakes, the movement of sands on beaches, the principles of regional physiography, and outlines for practical laboratory exercises. During the autumn and early winter a good share of time was given to the preparation of two reports on the work of the previous summer in Utah, Arizona, Nevada, and Oregon, one of which has been published in the Museum Bulletin, the other of which is in press. The former is chiefly concerned with the faults by which the plateaus of southern Utah and northern Arizona are divided. The latter is a discussion of the Basin range problem, to which renewed attention has been recently turned. At the same time, supervision was given to the special report on the Hurricane fault of the Toquerville district of southern Utah by Messrs. Huntington and Goldthwait, who accompanied Professor Davis in his western excursion. A short excursion was made in November to Mt. Mitchell and the Blue Ridge in North Carolina, with special consideration of the Blue Ridge as a retreating escarpment, the results of which have been published by the Geographical Society of Philadelphia.

A certain share of time was given to the organization of the Harvard Travellers Club, with the object of bringing together Harvard students and graduates and others interested in the promotion of intelligent travel and exploration. The plan met with an encouraging response, and the Club seems to be assured of steady growth. It numbers at present about one hundred members.

On April 17, Professor Davis left Cambridge, accompanied by Mr. Ellsworth Huntington as Carnegie Research Assistant, to proceed by the way of Constantinople and Baku, to Turkestan, where he was to investigate geologic and physiographic problems as a member of Professor Raphael Pumpelly's Carnegie Expedition. The journey was successful in every way. The subjects examined included the elevated shore lines of the Caspian Sea, the fluviatile plains of Turkestan, and the terraces and glacial deposits among the western ranges of the Tian Shan system as far as Lake Issikkul. Professor Davis returned via Semipalatinsk, Omsk, and St. Petersburg, reaching home August 28. Mr. Huntington turned south from Issikkul late in July, and near the end of August reached Kashgar, whence he will turn westward to Samarkand.

Professor Jackson reports that the collections used in teaching are in good condition. A number of new diagrams were mounted and photographic diagrams were added to those already in use for teaching. Mr. Laurence LaForge gave a considerable number of fossils from the New York Devonian, especially the Chemung group. A large number of fossils were purchased from Ward, of Rochester, to fill gaps in the teaching collections. In July and August Professor Jackson spent some weeks collecting in the Devonian and Carboniferous rocks of Michigan.

Professor Ward gave the usual courses in Meteorology and in Climatology, and also a new research course in Climatology (Geology 26). In the latter, Mr. W. S. Tower took as his subject "Climate and Man in the Philippines." A part of Mr. Tower's thesis has been published in the *Bulletin of the American Geographical Society* (Vol. XXXV, pp. 253–260). The purchase of thirty sling psychrometers made it possible for the first time to give the class in Elementary Meteorology some actual observational work. The results of this innovation were most satisfactory, and emphasize the need of introducing more instrumental work in this course as rapidly as possible. Sixteen sets of mounted weather maps of recent date have also added greatly to the interest of the laboratory work in Geology *B*. Professor Ward was occupied for some months with the proof of his translation of Hann's *Handbuch der Klimatologie*, which was published in April, 1903. During the second half-year Professor Ward gave a course of thirty lectures on Meteorology to students of the Institute of Technology.

Professor Woodworth reports that during the year there were added by purchase to the equipment of the laboratory in his charge, a collection of New York State rocks, representing the various horizons of the Palaeozoic column there developed; several rocks and minerals to fill gaps in the study series; a set of wall maps of the continents; and for field work a small plane-table and alidade. Every case in the section of the new building is now in working order, and a catalogue is under way, designed to facilitate reference to any desired object, including the maps and specimens. Mr. P. S. Smith during the year completed the numbering and cataloguing of the geological maps in Room 23, and materially advanced the same work upon the rock collections. A few gifts of interest have been received, notably a collection of apparently sand-blasted pebbles from the Keweenaw conglomerate of the Lake Superior district, from Mr. C. H. White.

Professor Woodworth under the auspices of the New York State Museum continued during the year, as time permitted, his investigation of the pleistocene geology of the Hudson and Champlain valleys. He also spent three days on Long Island, N. Y., for the U. S. Geological Survey. A paper on the terminal sedentary impressions of the trails known as Climactichnites, found near West Chazy, N. Y., has been published. As a result of last summer's field work a pleistocene map of the Mooers Quadrangle in Clinton County, N. Y., has been nearly completed. In the April recess, Mr. Goldthwait, as assistant to Professor Woodworth, began for the New York State Museum a re-mapping of the pleistocene deposits about New York City. One student from the Institute of Technology was given instruction in Glacial Geology.

As chairman of the committee on the Gardner Collection of Photographs (Professors Woodworth and Ward, and Mr. Read), Professor Woodworth reports that, thanks to the efficient help of Mr. P. S. Smith, the collection of photographs and slides is at the end of this year for the first time in a satisfactory condition as regards the classification of the material, and the registration of the data concerning it. The following statement has been compiled by Mr. Smith for this report: —

State of the Gardner Collection June 1, 1903.	Photographs.	Lantern slides.	Negatives.
Accessions since last report	76	325	0
Catalogued since last report	1,450	2,462	0
Unidentified views on hand	253	29	
Duplicates	144	49	
Broken	. .	3	0
Condemned for various reasons	23	3	0
Last accession No., June 1st	5,650	3,836	
No. of views in collection	5,483	3,780	1,064

The large number of views catalogued during the year represents an accumulation for some years of views concerning which information was not obtained at the time they were acquired. Mr. Smith has worked out the desired information, leaving a very small proportion of unidentified views. The larger proportion of slides than photographs acquired during the year expresses the present policy of the Department concerning purchases, since it has been found that the slides alone furnish suitable illustrative material for our large classes. The duplicates consist in the main of presentation copies, or of views which have been intentionally duplicated. The negatives belonging to the collection are very largely those used in making lantern slides, and most of them are copied from photographs or from drawings. On April 8th, an exhibition of over 150 Norwegian photographs was made before the American Academy of Arts and Sciences in the rooms of the Museum. There has been no public exhibition of the collection during the year. The committee is very desirous of securing some means of regularly exhibiting certain parts of the collection to the public.

Professor T. A. Jaggar continued his work in charge of the advanced field course in Geology and a half-course in Experimental Geology. Geology 22 was attended by fifteen students, who completed surveys, in the autumn, of the southern part of the Lawrence Quadrangle, and the eastern part of the Framingham Quadrangle. During the second half-year this class investigated the complex problems of the region about High Rock, in Melrose, one division of the class completing a large-scale topographic map, and inscribing thereon the geology. Mr. LaForge rendered efficient assistance in this work, and completed a thesis on the Geology of Somerville, Mass., which was presented on June 1st, for the degree of Doctor of Philosophy. He was assigned to field work in New Jersey, as U. S. Assistant Geologist, for the summer of 1903. Special studies of large areas in the vicinity of Boston were made by Messrs. D. C. Bard and F. M. Wilder. Mr. Bard made a reconnaissance geological map of portions of the Lowell and Lawrence Quadrangles, and Mr. Wilder, of the Framingham Quadrangle. These studies are preparatory to more elaborate work by future classes. In collaboration with Professor Crosby, of the Massachusetts Institute of Technology, arrangements were made with the U. S. Geological Survey, whereby Professor Crosby and Professor Jaggar will jointly produce a Boston City folio showing the geology of the Metropolitan District of Boston. Professor Jaggar gave instruction in the Massachusetts Institute of Technology in general, field, and experimental geology. Three students from the Institute joined the Harvard class in experimental geology in the spring, and two of these carried on advanced field work in the Middlesex Fells. In February, Professor Jaggar gave a course of six lectures at the Lowell Institute on the "Caribbean Volcanic Eruptions and their bearing on Vulcanology." During the summer he completed, in coöperation with Professor Palache, the folio of the Bradshaw Mountains, Arizona, for the U. S. Geological Survey. He further finished for publication two papers on the Caribbean volcanoes, now in press.

Mr. Read gave the course in Elementary Physiography to seventy-three students. He also acted as assistant in Courses 6 and 14, and gave a course of thirty lectures on Physiography to students of the Institute of Technology.

The following publications by officers and students of the Department were issued during the year: —

By W. M. Davis: —

An Excursion to the Plateau Province of Utah and Arizona. *Bull. Mus. Comp. Zoöl.*, XLII, 1903, pp. 1–50, 7 pls.

The Stream Contest along the Blue Ridge. *Bull. Geogr. Soc.*, Philadelphia, 1903, pp. 213–244, 4 pls.

The Development of River Meanders. *Geol. Mag.* (London), Decade IV, Vol. X, 1903, pp. 145–148.

Current Notes on Physiography. In *Science*.

By R. DeC. Ward: —

Relative Humidity of our Houses in Winter. *Journ. Geogr.*, I, 1902, pp. 310–317.

A Year of Weather and Trade in the United States. *Pop. Sci. Mo.*, 1902, pp. 439–448.

Irisirende Wolken. *Meteorologische Zeitschrift*, XIX, 1902, pp. 437–438.

The Climate of South America. *Encyc. Brit.*, New Vols., XXV, pp. 370–373, London, 1902.

Translation of Julius Hann's *Handbuch der Klimatologie*. Vol. I, 8vo, pp. xiv + 437. New York and London. The Macmillan Co., 1903.

Current Notes on Meteorology. *Science* (throughout the year).

Notes on Climatology. *Bull. Amer. Geogr. Soc.* (throughout the year).

Reviews in *Science*, *Bull. Amer. Geogr. Soc.*, *Journal of Geography*, *Harvard Graduates' Magazine*.

By J. B. Woodworth: —

The Northumberland Volcanic Plug. *Twenty-first Annual Report of the N. Y. State Geologist*, 1901. Albany, 1903, pp. r 17–r 24, with plates and a geologic map.

On the Sedentary Impression of the Animal whose Trail is known as Climactichnites. *N. Y. State Museum Bull.*, Sixty-ninth Report of the State Palaeontologist, 1902, pp. 959–966, 2 pls.

Note on the Elevated Beaches at Cape Ann, Mass. *Bull. Mus. Comp. Zoöl.*, Vol. XLII, 1903, pp. 191–194.

By T. A. Jaggar: —

The Crater of the Soufrière Volcano, St. Vincent. *Harper's Weekly*, September 13, 1902, Vol. XLVI, No. 2386.

Mt. Pelée's Renewed Activity. *Boston Transcript*, September 3, 1902.

The Next Eruption of Pelée. *Science* (N. S.), Vol. XVI, No. 413, 1902.

Professor Heilprin on Mt. Pelée. *Science* (N. S.), Vol. XVII, No. 428, 1903.

By J. A. Cushman: —

Studies of Localized Stages of Growth in some common New England Plants. *Am. Nat.*, Vol. XXXVI, No. 431, pp. 865–885.

Studies of Localization in some Plants of the Botanic Garden of Harvard University. *Am. Nat.*, Vol. XXXVII, No. 436, pp. 243–259.

By E. Huntington and J. W. Goldthwait: —

The Hurricane Fault in Southwestern Utah. *Journ. Geol.*, XI, 1903, pp. 46–63.

By R. M. Brown: —

The Mississippi River from Cape Girardeau to the Head of the Passes. *Bull. Amer. Geogr. Soc.*, XXXV, 1903, pp. 8–16.

By W. S. Tower: —

The Climate of the Philippines. *Bull. Amer. Geogr. Soc.*, XXXV, 1903, pp. 253–260.

ROBERT DeC. WARD, *Chairman.*

MINERALOGICAL MUSEUM AND LABORATORIES OF MINERALOGY AND PETROGRAPHY.

To the President of the University: —

Sir, — The courses in Mineralogy and Petrography have been well attended in 1902–03, and the equipment for teaching has been improved in several respects: for instance, a double electric stereopticon has been placed in the lecture room, by which the great Nicol prisms belonging to the department can be used to illustrate optical mineralogy, and at the same time ordinary lantern slides can be shown.

The Museum has received an unusually large number of gifts of mineral specimens, besides acquiring some excellent specimens by purchase to the extent of our limited means. Miss Maria Whitney presented the elaborate blow-pipe outfit belonging to the late Professor J. D. Whitney; Mr. L. M. Prindle (formerly connected with the department), eight aqua-marine crystals from Grafton, N. H.; The Ashland Emery and Corundum Co. sent a large and very valuable specimen of diaspore from Chester, Mass., one of the finest specimens ever found at that locality; Messrs. L. W. Jenkins and Thomas Clark, gold specimens from California; Mr. Emanuel Lissner, quartz from the Daly-West mine. The Museum purchased a large cavity containing millerite crystals, a complete set of the wonderful red tourmalines and pink spodumene from San Diego County, Cal., and some minor specimens. All of these have been placed on exhibition. A new departure was made in 1903, by attempting to obtain minerals by actual work at a locality. This was possible through the interest of Mr. F. M. Kilmer, a student in mineralogy, and of his father, part owner of the famous mineral locality at Auburn, Me. While the attempt was unsuccessful for the time being, the few blasts made failing to uncover a "pocket" of minerals, yet this method of making acquisitions at first hand is promising.

These evidences of interest in our collection from widely scattered sources suggest a consideration of what can be done to increase the effectiveness of their display to the public. It seems to me that the most pressing question is that of adequate illumination of the exhibition room. The majority of the specimens are from their nature small and dull-colored, and require the best light for proper display, while the room covers the entire floor of the building, with windows only at each side; in the centre of the room it is consequently impossible to see details clearly even on a bright day, especially as the direct sunlight is destructive to minerals, and the shades must be partly closed; on dark days and late in the afternoon, the whole room is insufficiently lighted. A strong artificial light, as nearly pure white as possible, such as is given by the Nernst or arc lamp, is the remedy, and some preliminary experiments have shown the surprising effectiveness of this means. It needs the most careful study to determine the best system, and especially whether the cost of current, even with the most careful use, would not be prohibitive.

Professor Palache has carried on with Mr. Fraprie a study of Babingtonite, and, with Mr. Wood, of the Millerite of Orford, Canada. He conducted the summer school of Mineralogy in 1903 at the University of California.

I have been engaged in preparing for publication a large amount of accumulated material, mainly petrographical and geological, and gave the whole summer of 1903 to that work.

The following papers have been published: —

(1) Babingtonite from Somerville, Mass.; (2) Babingtonite from Athol, Mass. By CHARLES PALACHE and F. R. FRAPRIE. *Proc. Am. Acad.*, Vol. XXVIII, No. 11.

JOHN E. WOLFF, *Curator.*

THE PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

To the President of the University: —

Sir, — At the time of the inception of the Semitic Museum, in 1889, the Trustees of the Peabody Museum coöperated with the generous founder of the Semitic Museum by granting the temporary use of one of the galleries in the Peabody Museum for the exhibition of the Semitic collection as it was being formed. When the Semitic collection was safely housed in its permanent home, in December, 1902, we immediately proceeded to adapt the gallery to our own use, and to make a systematic arrangement of our ethnological material in continuation of the exhibit in the hall below. The collections in the hall and gallery are now so arranged as to bring together objects pertaining to the tribes of each linguistic family of North American Indians and Eskimo, and to show the costumes, arts, utensils, weapons, boats, habitations, and everything that the Museum has been able to secure to illustrate the life and customs of each tribe. One of the striking features of this exhibit is the fine display of basketry, in several tribal exhibits. In connection with this arrangement, Mr. Willoughby has made a life size model of a Sioux Indian which, dressed in native costume, stands in one of the wall cases in the hall. By persistent effort Mr. Willoughby has secured, from our collection and from various other sources, authentic portraits of Indians of many tribes, as well as pictures showing characteristic occupations and typical habitations. By grouping these photographs in special frames on the walls between the windows, he has made a photographic representation of the principal types or linguistic families represented by the collections. This pictorial exhibit of native peoples is instructive and unique.

The moving of the Eskimo and Alaskan collections from the Warren Gallery to the gallery formerly occupied by the Semitic collection made it possible, by the construction of two new alcove cases, to rearrange the foreign ethnological collections to which the Warren Gallery is now entirely devoted. The photographic representation of native peoples of Africa, Asia, and the Pacific Islands has been carried out also in this gallery. Mr. Willoughby has made an instructive grouping and artistic arrangement of these ethnological exhibits.

By the expenditure of $1,221.62 for new cases and for alterations on the old ones, we have been able to place valuable ethnological material in safety and to put on exhibition hundreds of ethnological specimens that for many years have been in storage. We have also been able to incorporate into our collections the invaluable material received three years ago from the Boston Museum. In order to complete this work it has been necessary to draw on our income for next year, but this has seemed essential on account of the perishable nature of the older ethnological specimens in which the Museum is especially rich. Several of these objects were collected in the last part of the Seventeenth Century, and many in the Eighteenth Century and the early part of the Nineteenth Century. So great has been the change in the life and customs of nearly all native peoples during the last fifty years that these objects of old times are of priceless value and cannot be duplicated. That we were able to secure so many of these rare old objects is largely due to persistent efforts to concentrate in this Museum the archaeological and ethnological material in danger of destruction, from lack of room and care, in the older institutions of Boston and vicinity. In this way the Peabody Museum has been made the depository of invaluable collections from the Boston Marine Society, the Massachusetts Historical Society, the Boston Athenaeum, the Boston Society of Natural History, the American Antiquarian Society, the American Academy of Arts and Sciences, and the Boston Museum.* During the past year the Boston Museum of Fine Arts has begun to transfer to the Peabody Museum such archaeological and ethnological material as, from its bearing on the early life of man, finds a more appropriate place in a general anthropological museum than in an art museum.

Notwithstanding the additional gallery made available during the past year, the collections are still crowded. Stacked in trays in basement and attic and in storage in cupboards under the cases are many archaeological collections which, could they be brought into the geographical sequence, the proper system of arrangement for archaeological and ethnological collections, would add very much to the usefulness of the Museum to students, and to its attractiveness to visitors. This cannot be done until the completion of the Museum Building. I allude to the subject not only to account for certain gaps in the exhibits, but also to make one more earnest appeal for the one hundred and fifty thousand dollars required to complete the Anthropological Section of the University Museum Building.

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* In the collection received from the Boston Museum are several specimens that were in the once famous Peale Museum of Philadelphia; others from the Lewis and Clark expedition; and a number obtained by Catlin. A Massachusetts Indian bow, the only one in existence and dating from 1665, was received from the American Antiquarian Society.

The important explorations in Central America and the publication of results have been continued, thanks to a few friends of the Museum, who generously contribute each year to the Central American-Mexican Subscription Fund. This fund is managed by a special committee of the Museum Faculty and does not appear on the books of the Treasurer. Mr. Maler's work in the field has been continued, and the report on his latest explorations in the Usumacinta Valley was published in March as the second and concluding part of Vol. II of the Peabody Museum Memoirs. This volume treats of the archaeology of the UsumacintaValley, with brief references to the Lacandon Indians of that region. It comprises over two hundred quarto pages of text, a full index, two maps, and seventy-eight heliotype plates of the ruins and sculptures.

Mr. E. H. Thompson has continued his archaeological studies in Yucatan. His report on Xul, Tzulá, and Chacmultun, and on the Mural Paintings of Tzulá and Chacmultun, will be printed during the coming year. This memoir will be made specially interesting by the reproduction in colors of several mural paintings. We have received from Mr. Thompson a series of photographs showing the walls and sculptures of the north and south temples of the so-called Tennis Court of Chichen-Itza.

Mr. A. M. Tozzer, who holds the American Fellowship in the Archaeological Institute of America and is a student in the Division of Anthropology in the University, has continued his researches in the Maya-Quiche language as spoken by the Lacandones of Chiapas, Mexico, and the Upper Usumacinta River. In the language of the Mayas and Lacandones he finds only a slight dialectical difference, while in the life and customs of the two groups he finds a striking instance of the effect of Spanish contact upon a portion of this once homogeneous people. The Mayas of Yucatan have been modified by intimate contact with the Spanish since the time of the Conquest; but the Lacandones, being free from Spanish-Mexican contact, have remained in their native state. Living in a small settlement of Lacandones, Mr. Tozzer succeeded in winning the confidence and good will of this secluded people to such an extent that he was able to study their language and customs under exceptionally favorable conditions. The ethnological specimens which Mr. Tozzer secured while among these Indians have been placed in the Peabody Museum by agreement of the Archaeological Institute. Mr. Tozzer is now a candidate for the Ph.D. degree, and has presented a thesis on "A Comparative Study of the Mayas and Lacandones." He will return to Yucatan at the close of the year to continue his studies.

Mr. G. B. Gordon, who for several years has been connected with the Museum as field director of the explorations in Honduras* and as Assistant in Central American Archaeology, was last year Hemenway Fellow and a candidate for the S.D. degree in this division of the University. Mr. Gordon presented a thesis on "The Serpent Motive in the Art of Central America and Mexico," and received his degree last June.† On September 1st he accepted an appointment as Assistant Curator in the Free Museum of Science and Art, University of Pennsylvania.

For some time I have known of a site on the Cattaraugus reservation in New York State which Iroquois tradition designates as a former village site of the little known Erie Indians. Fortunately we were able, during the past summer, to secure the services of Messrs. M. R. Harrington and A. S. Parker, young men whom I had trained in archaeological work in connection with the American Museum of Natural History. With the aid of the income of the Henry C. Warren Fund a careful exploration of a portion of the site was made, with most satisfactory results. From the graves explored we received several skeletons and a fine lot of pottery vessels, also characteristic pipes, stone and bone implements, ornaments, and many other objects. Mr. Harrington is now preparing a detailed report on the exploration, and when this is received and the collection is arranged the results of this important exploration will be made known. While the young men were on the Cattaraugus reservation they secured from the Indians a small ethnological collection. Mr. Harrington has written an account of, and made a special collection to illustrate, the Indian method of preparing corn and beans for food. This collection includes the various mortars, baskets, mush-paddles, ladles, etc., made and used by the Indians. Mr. Harrington also secured several masks and other paraphernalia of the "False Face Society," and Mr. Parker, who is an Iroquois and a member of the society, has written an account of this Indian society.

Mr. D. I. Bushnell, Jr., has made a restoration of a stone grave, with its contents, which was obtained during the expedition to Missouri last year. This stone grave has been placed in the hall near the collections from Missouri, and is a good illustration of the well-known "stone graves" of the region. This particular grave was evidently used for the reburial of bones belonging to two skeletons, with which was placed a characteristic bowl of the pottery of the region. Mr. Bushnell is now preparing the report on the explorations at Kimmswick for the University of California and for this Museum. He has also prepared a general account of the Cahokia Mound group to accompany the model of the group which he made for the Museum over a year ago. This account will be published in our series of octavo papers.

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* Several reports by Mr. Gordon on the results of the Museum expeditions in Honduras are published in Vol. I of the Museum Memoirs.

† This is the first time the doctor's degree has been given in this division to a graduate of the Lawrence Scientific School.

A number of valuable specimens were secured during the year by the appropriation of $1,386.20 from the income of the Huntington-Frothingham-Wolcott Fund, — a fund that is very helpful to the Museum, as exemplified by the important collections and costly specimens which have been secured by the expenditure of its income from time to time.

The income of the Susan C. Warren Fund has been applied toward the expense of the new cases in the Warren Gallery, and for special cases for the models of the Cahokia Mound Group and the Navajo Sand Painting. It will be recalled that several years ago Mrs. Warren generously gave the money for the construction of the cases in the Warren Ethnological Gallery.

By gift of Miss Mary L. Ware we have received the Niven collection of human crania, pottery, and stone implements, from the ancient ruins in the state of Guerrero, Mexico, — an important addition to our exhibit of Mexican archaeology.

Mr. Lewis H. Farlow of Boston has continued his gifts to the Museum, and we have received the following from him during the year: Ute and Sioux cradles, a Sioux bag and necklace, Zuñi tihus, fetiches and necklaces, Moki dance kilt and carrying pad, photographs of Zuñi and Moki ceremonials, a Nez Percé wallet, a Pottawatomi beaded pouch, and forty-three baskets from fourteen tribes. Many of these baskets are fine old examples of the best work and make a valuable addition to the collection of basketry for which we are specially indebted to Mr. Farlow and his sister, Mrs. Linder.

To other friends of the Museum we are indebted for the following gifts: —

Dr. H. H. Hiller of Philadelphia has given us fifteen Ainu photographs taken by himself; Mrs. George Linder of Boston, ten miniature figures illustrating people of India, their dress and customs, also a model of a buffalo cart, and a model of cart with canopy drawn by sacred white buffalos, from India; Mr. Henry B. Bigelow (Harvard

1904) of Cohasset, a kayak from Labrador; Mr. Robert Parkman Blake (Harvard 1894) of Boston, a three-hatch bidarka with paddles, and a native skin shirt or kamenka collected by him while at Kadiak Island, Alaska; Mr. George S. Pitcher of Boston, a small model of the Mexican Calendar Stone; Mr. David Wagstaff (Harvard 1905), a Sioux tobacco pouch ornamented with quill and bead work, collected by Mr. C. D. B. Wagstaff in 1870, and a ceremonial staff from New Zealand, collected in 1820; Mrs. Lee Hoffman of Portland, Oregon, several baskets from the Klamath and Warm Springs Indians, and an Indian hat from British Columbia; Mr. Frank A. Gardner of Salem, a photograph of a wooden spoon taken from an Indian killed by Captain John Gardner at the battle of Haverhill, August 27, 1708; Miss Mary H. Loring of Boston, two Korean mats; Mr. John Daniels (Harvard 1904), an Eskimo kayak, four Eskimo wallets, six pieces of basketry, small Eskimo carvings, a pair of snowshoes, from Labrador, collected during the Glazier Expedition in 1902; Mrs. Asa Gray of Cambridge, an ancient pueblo vase from the Chaco Cañon, New Mexico, a large Papago basket, two birch bark boxes with quill work from the Ojibwa Indians of Lake Superior, collected in 1848, six Nubian baskets collected by Professor and Mrs. Gray in 1869; Mr. Augustus P. Loring (Harvard 1878) of Boston, an old Navajo carrying basket; Dr. F. C. Shattuck (Harvard 1868) of Boston, a Kaffir vase; Mrs. Charles J. Bowen of Boston, beads from a mound on the Ashley River, S. C., collected in 1846; Mr. F. A. Golder, fragment of carved slate from Shumagin Island, Alaska; from a friend, a set of Professor Starr's portraits of Indians of Southern Mexico; Dr. John W. Farlow of Boston, a collection of Kaffir objects from near Natal, Africa; Dr. L. C. Jones (Harvard 1887) of Malden, several terra cotta objects dug up in a garden near Rome, and a pottery bowl from a ruin in New Mexico; Mrs. E. J. McNeil of Cambridge (through Miss Mead), an ancient birch bark box ornamented with spruce root wrappings and porcupine quill work, from the Micmacs of Nova Scotia; Miss Nellie M. Betteley of Cambridge (through Miss Mead), an ancient Algonkin birch bark box ornamented with spruce root wrappings and porcupine quill work; Mr. Clarence B. Moore (Harvard 1873) of Philadelphia, pottery vessels from several mounds on the west coast of Florida; Mr. T. H. Thomas (Harvard 1903), three photographic negatives of the skull of Sleepy Eyes, a Sioux chief who took part in the Sioux uprising of 1863; Mr. L. W. Jenkins of Salem, photographs of Tarahumara Indians of Mexico; Mr. Hubert Vos of New York, photographs of portraits, painted by Mr. Vos, of types of Chinese, Thibetan, Sikh, Punjantic, and Javanese peoples; Mr. Teobert Maler of Merida, Yucatan, a small human figure (original of Fig. 33, Vol. II, Memoirs of Peabody Museum) of chlorite-serpentine schist, from Budsilha, Chiapas, Mexico; Mr. David P. Kimball (Harvard 1856) of Boston, two Egyptian mummies in cases, formerly in the Boston Museum; Mr. L. Warner (Harvard 1903), bear totem in stone found on the Klamath Reservation, Oregon; Professor S. P. Sharples (Harvard 1866) of Cambridge, basket and material showing methods of making from palm-leaves, Cayman Island, W. I.; Mr. Seton-Karr of Wimbleton, England, fourteen paleolithic implements from near Madras, India, and ten from Somaliland, East Africa; Mrs. Pierce of Merida, Yucatan (through Mr. Tozzer), a Maya comb and a Maya chocolate pitcher, both made of wood; Mr. H. N. Rust of Pasadena, a copy on cloth of Lone Dog's winter count covering the years 1800 to 1870; Judge James Wickersham of Tacoma, two pottery vessels from an ancient igloo site, Cape Prince of Wales; Mr. Alfred P. Maudslay of London, a large number of folio plates from his work on Central American Archaeology; Dr. James P. Kimball of New York, a stone pendant found by Mr. Russell Kimball in 1884 in the garden of estate No. 16 Lowell Street, Cambridge; the Curator, a native mask from New Ireland and an Eskimo bone snow knife with etched figures from Alaska; The Boston Society of Natural History, Archaeological specimens from several localities in Massachusetts, Maine, and Florida; The Peabody Museum of Yale University, a cast of the skull of *Pithecanthropus erectus;* The Boston Museum of Fine Arts, a collection of objects of pottery, bronze and iron from Armenian graves, collected by H. de Morgan in 1888.

From a friend of the Museum the library has received generous gifts, including a full set of the Egypt Exploration Fund publications, eleven bound volumes of Globus, 1897–1902, and forty-two bound volumes of "Coleccion de Documentos ineditos de America," published in Madrid, 1864–84. The Duke of Loubat has sent us the two large quarto parts of Dr. E. Seler's study and elucidation of the "Codex Vaticanus, No. 3773," Berlin, 1902, and also an English translation of the same, 1902–03. These, like the facsimile reproduction of this Vatican Codex issued in 1896, were published under the patronage of the Duke. He has also sent us two volumes of "Decades Americanae," by E. T. Hamy, and several pamphlets. Mr. C. B. Moore has given to the library, and to each scientific assistant, copies of his two Memoirs published during the year on the northwest and west coast of Florida. These memoirs, of which fifteen, in nine parts, have been issued by Mr. Moore, make known for the first time the archaeology of the southern coast from South Carolina and Georgia around Florida to Alabama, and form a monumental work in American archaeology. Mr. A. M. Tozzer (Harvard 1900) has given us a copy of "Gramatica Maya escrita por M. Zavala"; and Professor M. H. Saville has given a copy of "Vocabulario Manual de las lenguas Castelana y Mexicana."

Including the above and other gifts, exchanges, and a few acquisitions by purchase, the library has received additions, during the year, amounting to 157 volumes and 141 pamphlets. We are now gradually transferring to other departments or to Gore Hall such books as are rarely consulted in the Peabody Museum, thus keeping the department library strictly anthropological, with the exception of a few volumes on other subjects needed for general reference.

At the beginning of the last college year, Dr. Frank Russell resumed his duties as Instructor in Anthropology after a year of absence. He devoted himself to his work with his former earnestness and carried on his several courses until the close of the college year, when he felt compelled to resign his position and start for Arizona. Here he planned to take up a homestead, and in July a letter was received from him in which he cheerfully referred to digging irrigation ditches and making a home for his family. On November 7 a telegram was received from Mrs. Russell, stating that Dr. Russell died that morning. Dr. Russell came to Harvard from the University of Iowa in 1895 and entered the Senior class. In 1896 he took the degree of A.B. In the following year he received the degree of A.M. for studies in the division of American Archaeology and Ethnology; and in 1898 he received the degree of Ph.D. in the same division. He was thus the second man to take the degree since the establishment of the division. During the years 1896–98 he held the Hemenway Fellowship. In 1896 he was made Assistant in Anthropology and aided in the courses of instruction. In 1897 he was appointed Instructor in Anthropology, and the following year was reappointed without limit of time and made a member of the Faculty of Arts and Sciences. During the year of his absence he was employed in archaeological and ethnological work in Arizona for the U. S. Bureau of American Ethnology, and in this connection he has prepared an extensive report on the Pima Indians. He had previously made a study of the Apache language during a summer trip when he did some archaeological work for the Museum. Dr. Russell's power of endurance and his persistence were shown during his trip under the auspices of the State University of Iowa in 1892–94, when at the age of twenty-four he made the journey from the Great Salt Lake down the Mackenzie River to Herschel Island in the Arctic Sea. It was during this expedition that he became interested in the study of the Indians. By the death of Dr. Russell we have lost a valuable teacher, and the science of anthropology has lost a devoted student whose conscientious work has aided its advancement.

It is my sad duty to record another premature death among our number — that of one of the most promising students in anthropology, Mr. Howard B. Wilson, Winthrop Scholar for the years 1901–03. Mr. Wilson graduated with the Class of 1902 and was preparing for life work in anthropology. At the beginning of last summer he accepted a position under Dr. Franz Boas, of the American Museum of Natural History, for linguistic work in California. He had been for a few weeks with the Indians in the Sacramento Valley when he contracted the prevailing typhoid malaria and was obliged to go to the hospital at Willows. We learn from Dr. Dixon, who was with him at the hospital, that he was well cared for and had apparently recovered when, suddenly, he had a relapse and died of heart failure on August 4. Mr. Wilson was highly respected by his fellow students and by all in the Department and Museum. He was a faithful and conscientious student, with a natural proclivity for Indian languages. He would have made an important addition to our small corps of young men who are engaged in the study of American linguistics.

Dr. W. C. Farabee, who received the degree of Ph.D. in this division last Commencement Day and who has been Austin Teaching Fellow for two years, was appointed Instructor in Anthropology for the present year. A slight change was made in the courses in Anthropology for the year. Drs. Dixon and Farabee are now giving instruction in two full courses and three half-courses to undergraduates and graduates ; and three research courses are offered in the Division.

During the past year I have withdrawn in part from the American Museum of Natural History, giving but one week a month instead of two to that institution, with the intention of closing my official connection with that museum at the end of the current year. During the summer vacation, as head of the Department of Anthropology in the University of California, I was in the state of California engaged in exploration and in directing the work of the department.

At a meeting of the Museum Faculty on April 1, the Corporation was requested to assume the care of the building, including janitor service and fuel. At its meeting on April 27, the Corporation voted to take on these charges as part of the general College expenses. For several years, notwithstanding the economy of administration, the funds have not been sufficient to meet these expenses, and each year the Corporation has advanced a small sum which stands as a debt against the Museum.

F. W. PUTNAM,
Peabody Professor and Curator of the Museum.

THE SEMITIC MUSEUM.

To the President of the University: —

Sir, — At the time of the last annual report the work of arranging the collections in their new home was going on, and the hope was expressed that this task might be completed early in the year 1903. That hope was realized, and on the 5th of February the Semitic Museum was formally opened, nearly twelve years after the first public exhibition of the Semitic collections in a room of the Peabody Museum (May 13, 1891).

At the opening exercises addresses were made by the Curator of the Museum, by Professor C. E. Norton representing the Board of Overseers, by Dr. Cyrus Adler of the Smithsonian Institution, by Jacob H. Schiff, Esq., the donor of the building, and by the President of the University. Letters were also read from Professor C. H. Toy, who was in Europe, and from other Semitic scholars.

This formal opening being the most notable event of the year in connection with the Museum, it is fitting that a brief account of the addresses should here be given. While they were all characterized by a spirit of rejoicing at what had been accomplished, there was due recognition of the fact that the usefulness of the Museum has but begun, and that its work of greatest importance, that of extending the bounds of knowledge by exploration and investigation, is yet to begin.

The address of the Curator gave the history of the growth of the collections and of the building, emphasized the importance of exploration in Semitic lands for further development of the Museum, and expressed the hope that the building itself, the departmental library, and the work of exploration might be suitably endowed.

Professor Norton declared that the great Semitic contribution to civilization is the Old Testament doctrine, " In the way of righteousness," and only in that way, " is life," and he closed with the hope that the collections as they increase may " not only add to the means of knowledge in the University," but may " help to quicken and strengthen in the youth who resort hither from generation to generation that spirit which found its highest poetic expression in the Semitic literature of the Hebrew race — that moral spirit, which is the inspiration of individual and of national righteousness."

Dr. Adler showed that it is an error to suppose religion to be "the only important product of the Semitic mind and soul"; that the rudiments of the sciences and the arts are also to be found in Western Asia, whence they were imported to Europe to aid in building up a new civilization; and that the time has come when a knowledge of what the Semites have wrought for mankind should be "the property of all cultivated men."

Professor Toy's letter describes the ancient western world "as a series of actions and reactions between the Semites and the Indo-Europeans. . . . Culture then, as now, was a process of give and take. In this process the Semites bore themselves bravely and with honor, borrowing freely and giving as freely."

Professor Morris Jastrow, Jr., of the University of Pennsylvania, in his letter, says, "The opening of the Harvard Semitic Museum marks, I firmly believe, an epoch in the further development of Semitic and general Oriental studies in this country."

In formally transferring the building to the University, Mr. Schiff said, addressing the President, "We commend it to the fostering care not only of yourself and of the governing bodies of this great University, but we commend it, likewise, to the good-will of all who believe that the gaining of a thorough knowledge of the civilization of those who have been before us means a better humanity and happier conditions for ourselves, and even more so for those who come after us, and who are to become judges and recorders of our own activities, of our own achievements, and of our own civilization."

In reply President Eliot said, "I accept on behalf of the President and Fellows of Harvard College this great and interesting gift, and I accept it in the spirit in which you offer it. I accept it as the storehouse of a great historical past, and with the confident anticipation that for centuries to come it will be the means of expounding an enlightening and inspiring progress which to us is an invisible future." After referring to our indebtedness to the Semitic race for "the conception of righteousness as a national ideal embodied in law," the President closed as follows: —

"This ideal characterizes the Old Testament, — and indeed both Testaments. There is another infinitely precious conception which we owe to the same race, a conception expressed more fully in the New Testament, though not lacking in the Old, — the purest and tenderest conception mankind has ever won of domestic love and joy. Therefore, I say, we owe to these Semitic peoples — the peoples from which came the three greatest religions of the modern world, or of any age of the world — the greatest spiritual conceptions of all time.

"We look forward to a continuous and enlarging usefulness for this Museum. We expect it to contribute year by year and century by century to the education and training of American youth in the sublime Semitic conceptions, and to their knowledge of the sources of these conceptions. The Museum, as has already been said, is necessarily to be a place for keeping safe sure records of the history of a great race; but we may be sure that it will also prove in the future the means of inducting our youth into new discoveries greater than any we now imagine, — discoveries as to the genesis and significance of our biblical records, and as to the development of the fundamental ideas which we owe to the Semitic peoples."

Most of the objects bought for the Museum during my year abroad (1901–02) had arrived at the time of my last report. Others came to hand early enough to be placed in the cases before February 5th, and a few others have arrived since that time. Of the acquisitions during the year 1902–03, one is an original Assyrian inscription from king Assurnazirpal (9th century B.C.), on an alabaster slab about three feet square.

We have also purchased some models made at Jerusalem by Dr. Conrad Schick, a German archaeologist, resident for about fifty years in that city. A description of these may be reserved till the next annual report. The model of chief value is one of the Haram esh-Sherif, about 9 × 11 feet, giving an exact representation of the mosques and other buildings occupying the site of Solomon's Temple and Palace. A second model, of the same dimensions, is an attempt to reconstruct the Temple of Solomon and The Temple of Herod, while a third, of smaller size, represents the Tabernacle. These models reached Cambridge on December 24, 1903. It is probable that they can be placed on exhibition early in the year 1904. In connection with the purchase and the shipment we have had the valuable assistance of Professor George A. Barton, of Bryn Mawr College, and of the United States Consul at Jerusalem, Dr. Selah Merrill.

Dr. John Orne, Curator of Arabic Manuscripts, has continued the work of cataloguing and describing our manuscripts in this language.

The Museum is open to the public daily, except Sundays and holidays, from 9 A.M. till 5 P.M. No attempt has been made to keep a record of the number of visitors, but the number is considerable. Besides the single visitors, and groups of two or three, there are at times large parties, as of clergymen or of students from schools and colleges. The nature of this resort shows that the

Museum is attractive and instructive to the community at large, and it will become increasingly so in proportion as it becomes better known.

In closing I wish to call attention once more to the important subject of exploration. The Semitic Museum is the outgrowth primarily of an effort to secure the means for digging in Semitic lands. This original aim we have never lost sight of, and the times are now surely ripe for its realization. Several European universities and learned societies are displaying great activity in Egypt, Palestine, Babylonia and Assyria, and they are meeting with corresponding success. In Persia, too, Semitic literary remains of the first magnitude have been unearthed by M. de Morgan, notably the famous code of Hammurabi. Nor is the interest in America less keen than in Europe. Two of our universities, Pennsylvania and California, have been engaged in exploration for years, the work for the latter institution being done by two men trained at Harvard. Chicago University has recently employed another son of Harvard to dig in Babylonia. While we rejoice that Harvard men are doing this most useful service for learning in connection with these universities, we should be doubly happy if others of them were giving similar service to their alma mater. What is lacking is not the will but the money. The amount needed is so considerable that we can scarcely hope to secure it by general subscription. Most American exploring parties are sent out and supported by one person, or by a few persons, who are sufficiently acquainted with the subject to appreciate the rare opportunity. So it has been in Philadelphia, so in California, and so it is at Chicago. It will be a happy day for the University and for the Museum when some friend or friends shall make it possible for us to have a share in this most fascinating and most important work of recovering and of publishing the records of those great peoples whose ideas constitute such an important element in our own civilization.

D. G. LYON, *Curator.*

THE FOGG ART MUSEUM.

To the President of the University: —

Sir, — I have the honor to present the following report on the Fogg Art Museum for the year 1902–03.

Our accessions are as follows: From H. G. Curtis, Esq., of Boston, of the Class of 1865, we have received a gift of forty-seven bronze reproductions of Italian and French Medals of the Renaissance, together with the handsome case in which they are displayed. While these medals have great interest as portraits of distinguished historical personages, they are also of high value as works of art, rivalling in their artistic qualities the finest coins of the ancients with which they may be readily compared in our Museum. The chief Italian master in works of this class, the well-known painter, Vittore Pisano, is represented in this collection by thirteen works. Among the portraits by him and others included in the gift are those of Alfonzo V of Aragon, Lionello D'Este of Ferrara, Filippo Maria Visconti of Milan, Leon Battista Alberti, Cosimo dè Medici, Lorenzo dè Medici, Mahomet II, Sultan of Turkey, Louis XI, Francis I, Charles IX, and Henry IV of France. The best French Medalist, Dupré, is well represented. Of the elaborate and beautiful compositions on the reverse sides, which cannot of course be seen as the medals lie in the case, we are having photographs made to hang against the wall. The medals are, for the most part, of considerable size, ranging from 40 or 50 to nearly 200 millimetres in diameter.

From Charles Fairfax Murray, Esq., of London, we have, as a gift in memory of his American friend, the late Mr. W. J. Stillman, Turner's water-color drawing of Devonport, a work executed between 1825 and 1830, the time of the master's most accomplished maturity, just after the completion of his great work, the Liber Studiorum, but before he attained the full freedom of his later style. It is one of his most elaborate compositions, and exhibits unrivalled delicacy, together with force, of handling. The drawing was formerly in the collection of the late John Ruskin, and is referred to by Mr. Ruskin, in the printed catalogue of this collection, as follows: "No more wonderful drawing, take it all for all, exists by his (Turner's) hand than this one, and the sky is the most exquisite in my own entire collection of his drawings. It is quite consummately true, as all things are when they are consummately lovely. It is of course the breaking up of the warm rain-clouds of summer, thunder passing away in the west, the golden light and melting blue mingled with yet falling rain, which troubles the water surface, making it misty altogether, in the shade to the left, but gradually leaving the reflection clearer under the warm opening light. For subtle, and yet easily vigorous drawing of the hulls of our old ships of war, study the group in the rain, no less than the rougher one on the right." This work is a precious acquisition, and it more than fills the gap left by the withdrawal of Mr. Francis Bullard's beautiful drawing of Tintagel, which was loaned us for a while last year.

From Mr. Edward W. Forbes, '95, we have received, as an indefinite loan, an instructive early water-color drawing by the same master, making in all five original works by Turner now in our collection, representing as many periods of his artistic career from boyhood to his strongest maturity. These, with the few original water-color drawings by other Early English Masters, acquired in former years, afford useful illustration of the development of the beautiful modern art of landscape painting, which is to a very considerable extent essentially English.

From Dr. Oliver Tonks we have a gift of vase fragments illustrating many early forms of Greek pottery ornamentation, which will be of value to students of Greek art and archaeology.

To the Gray Collection of Engravings have been added the following prints: By gift from the engraver, Mr. Gustav Kruell, a portrait of the late Charles Darwin and a portrait of Mr. Wendell P. Garrison. By purchase out of the income of the Gray Fund, a portrait of Johannes Zurenus, engraved on copper by Goltzius; Death of the Virgin, engraved on copper by Schongauer; portraits of Abraham Lincoln, James Russell Lowell, and Charles Eliot Norton, respectively, engraved on wood by Kruell, and the following plates of the Liber Studiorum by Turner: Ben Arthur, etched by Turner and engraved in mezzotint by Lupton, a remarkably fine, first state; Bridge and Cows, etched by Turner and engraved in mezzotint by C. Turner, first state; and the following subjects in the etched state: Young Anglers, St. Catherine's Hill, Winchelsea, Peat Bog, Norham Castle, Sheep-Washing, Temple of Jupiter, Frontispiece, Bridge and Cows, Woman and Tambourine, Farm-Yard with the Cock, Rispah, and Ville de Thune. These are all important additions to our Liber series, which now includes a considerable number of very choice impressions in the mezzotint state, and forty-one of the etchings, all of which are rare, and have been added since the Gray Collection was returned from the Boston Museum of Fine Arts.

To the Randall Collection have been added, by transfer from the College Library, mezzotint portraits, by Copley and Pelham respectively, of William Welsted, William Hooper, Timothy Cutter, Charles Brackwell, Henry Cauer, Thomas Prince.

To the Collection of photographs, 1,124 additions have been made, including illustrations of Mediaeval, Renaissance, and Modern Architecture, Modern Spanish Sculpture, Ancient Roman Architecture, Ancient Greek and Roman Sculpture, Mediaeval French Architecture, Italian Painting, and Ancient Architecture of Central Syria. Of these, 367 are the gift of an anonymous friend of the Museum.

To the collection of slides, only 24 additions were made. These represent Mediaeval Egyptian, Italian, and French Architecture, Renaissance Italian Architecture, and French and English Etching.

To the reference library of the Museum the following books have been added: La Peinture en Europe — Le Louvre; Guide to Coins of the Ancients in the British Museum, 4th edition; Kgl. Museen zu Berlin Beschreibendes Verzeichnis der Gemälde; Allgemeines Künstler-Lexicon, 5 vols.; F. Muller's Catalogue des Tableaux Anciens, gift of F. Muller & Co.; Mrs. Jameson's Legends of the Monastic Orders, and her Sacred and Legendary Art; Catalogo della raccolta di disegni posseduta dalla R. Gal. degli Uffizi; Katalog d. Gemälde-Sammlung d. Kgl. alt. Pinakothek in München; and Cunningham's Handbook for London, 2 vols., the last five titles transferred from the College Library.

The accessions to the library of the print collections are: A Catalogue of the Plates of Turner's Liber Studiorum, by C. E. Norton, transferred from the College Library; Étude sur Jean Cousin; Suivie de Notices sur Jean Lectere et Pierre Warriot, by Ambrose Firmin Didot, and Recuil des œuvres choisies de Cousin reproduites en facsimile, both given by Miss Grace Norton, and Les Graveurs du XIX siècle; Guide de l'Amateur d'estampes modern, by Henri Beraldi, 12 vols., purchased out of the income of the Randall Fund.

To provide a suitable place for the display of the valuable Loeb Collection of ancient bronzes, vases, and gold ornaments, referred to in my last report, it was necessary to rearrange our collection of coins and vases previously acquired. These objects were accordingly transferred from the small, ill-lighted room, where they had before been kept, to the larger, and better lighted, northwest room on the ground floor, which is now devoted exclusively to bronzes, coins, medals, vases, and kindred objects, for the most part of Greek and Greco-Roman workmanship. Here the Loeb Collection is well installed in handsome dust-proof cases, where they may be conveniently studied.

In June last the Corporation voted to apply the income of the Searle-bequest, amounting to $80 or $90 a year, to the purchase of books for the Fogg Museum. This is a very welcome addition to our slender resources. In the print department exhibitions were made during the year of the works of engravers of the school of Rubens, and of Dutch etchings of the seventeenth century. The number of prints catalogued during the year was: Of the Gray Collection (new accessions), 23; of the Randall Collection, 1,844. The total number of Randall prints now catalogued is 6,871. To facilitate the use of prints the following reference lists have been made within the year: A list of Block-Books, and lists of prints illustrating the processes of aquatint, mezzotint, etching, dry-point, soft ground, stipple, roulette, and chromolithography. The sheets of the Catalogue by Engravers show what prints in the Collection are executed in any of these processes.

The number of visits to the Museum for the use of photographs was 925, of which 695 were by members of Harvard University.

Photographs were loaned to the Department of Architecture, to Radcliffe College, and to individual borrowers connected with the University, and others, 283 times, and slides were loaned to the Department of Architecture, to Radcliffe College, and to individual borrowers, 133 times.

To the Print Department of the Museum persons using prints made 221 visits, of which 166 were by members of Harvard University.

Two printed catalogues have been issued during the year, a catalogue of the Loeb Collection, reprinted from the larger catalogue of the Forman Collection to which Mr. Loeb's objects formerly belonged, and a Catalogue of the Curtis Medals, which was prepared by our assistant, Miss Louise R. Albee.

For mounting photographs, and for other mechanical work, done for the College Library, the Department of Architecture, and for several outsiders, we have received the sum of $156.14; and from the sale of photographs and catalogues we have received $11.50.

With the development in the University of other museums in which the collections consist largely, if not exclusively, of works of art, as the Semitic Museum and the Germanic Museum, it would seem that, in order to avoid unnecessary and costly duplication, it would be desirable to have some common understanding, and common basis of action between them in respect to accessions. The Fogg Museum already includes a wide range of material illustrating both Semitic and Germanic art. In illustration of Germanic art it not only has a large collection of photographs of architecture, sculpture, and painting — German, Dutch, Flemish, Scandinavian, and English — but in its large and costly print collections it includes a wide range of original works in engraving which represent every phase of Germanic art in this branch from its earliest forms to those of the present time. We have also a working library embracing the most important literature of the subject, so that the history, principles, and processes of Germanic engraving may be studied here exhaustively. We are bound by the terms of the Gray and Randall bequests to maintain the growth of these print collections, and our policy therefore in respect to them cannot be changed; but as to future accessions of other classes of works, either originals or reproductions, I would suggest that henceforth the curators of the several University Museums might well confer in the interests both of economy and convenience.

Such has been the growth of our Museum that we are already becoming cramped for space. With any considerable addition to the collection of photographs, and such addition is very desirable, new cases will be required, but space for such cases can hardly be found without inconveniently crowding the main gallery. The room especially devoted to photographs has long been full, and two large cases are already placed in the main picture gallery. This gallery was not intended for storage, but it may well be put to this use when we are able to erect the much needed wings to the building providing rooms properly lighted for the display of our valuable paintings, and other important original works of art. Plans for these wings have been prepared, and the estimated cost of them is $40,000 and $50,000 respectively. It is to be hoped that the means to construct at least one wing may before long be found.

CHARLES H. MOORE, *Director*.

THE GERMANIC MUSEUM.

To the President of the University: —

Sir, — The collections of the Germanic Museum, as far as they were installed during the academic year 1902–03, may be summed up as follows: —

The industrial activity of Germanic tribes previous to the establishment of the Karolingian empire is represented by a few isolated objects, such as a grave-urn of the fifth century from the island of Föhr, a model of the Nydam boat from the Museum of Germanic Antiquities at Kiel, a figure of a Frankish warrior of the seventh century, with exact reproductions of arms and implements, from the Roman-Germanic Museum at Mainz. The bulk of the collection is devoted to German art in the narrower sense, particularly to German architecture and sculpture of the Middle Ages and the Renaissance.

The background of this part of the Museum is formed by 150 large photographs from the Königlich Preussische Messbildanstalt at Berlin, covering the walls of the lower aisle of the building, and containing views of the exteriors and interiors of the principal German cathedrals, castles, city halls, and private houses from the eleventh to the sixteenth century. The central hall as well as a large part of the side aisle is given over to representative specimens, in plaster cast, water color, and galvano-plastic reproductions, of monumental works of German art during this period.

The eleventh century is exhibited by casts of the Bernward column and the bronze gates of Hildesheim cathedral; the twelfth century by water-color reproductions of Romanesque mural paintings in the churches of Brauweiler and Schwarzrheindorf, and by casts of the choir-screen of St. Michael's at Hildesheim and parts of the choir-screen of Bamberg cathedral. The thirteenth century, the classic epoch of mediaeval German sculpture, is brought to view by a considerable number of remarkable monuments: the baptismal font of Hildesheim cathedral; the Golden Gate of Freiberg; the tomb of Henry the Lion and his wife at Brunswick; the statues of emperor Henry II and empress Kunigunde from Bamberg cathedral; the Death of Mary, a Wise and a Foolish Virgin, two Virtues crushing Vice, and the figures of Ecclesia and Synagoga from Strassburg cathedral; the small portal of Our Lady's at Trèves; and a superb array of monuments from Naumburg cathedral, including the whole of the rood screen and eleven of the masterly portrait statues of princely patrons and patronesses. The fourteenth century is represented by only one work of art: the tomb of St. Aurelia in the monastery of St. Emmeran at Regensburg.

The rest of the collection brings out the development of German sculpture from the end of the fifteenth to the end of the eighteenth century. Among the most important objects from this period contained in our Museum may be mentioned: the huge bishop's seat by Jörg Syrlin from Ulm cathedral; the Seventh Station by Adam Kraft, the Mater Dolorosa from the Germanic Museum, and a Renaissance door from the Hirschvogel House at Nuremberg; the figure of a Swiss warrior from the Metzgerbrunnen at Schaffhausen; parts of Hans Brüggemann's altarpiece at Schleswig cathedral; Peter Vischer's tomb of St. Sebald, King Arthur, and tomb of the Count of Henneberg and his wife; Emperor Maximilian, from his tomb at Innsbruck; 150 plaquettes by Peter Floetner and other masters of the sixteenth and seventeenth centuries; Andreas Schlüter's equestrian statue of the Great Elector, and three masks of dying soldiers from the Royal Arsenal at Berlin; finally, Schadow's Frederick the Great.

The rapid growth and the present hopeful condition of the Museum are due above all to the generous and high-minded initiative of His Majesty the German Emperor, to whom Harvard University is indebted for an act of international friendliness unparalleled in American educational history. Many of the finest and largest objects in our collection are the Emperor's gift, and his donation makes our Museum a storehouse of some of the greatest landmarks in the development of German plastic art. To the sentiment of profound and respectful gratitude towards our imperial benefactor — a sentiment which to me as Curator of the Museum is particularly precious — I would add here the expression of our keen appreciation of the thoughtful care with which Dr. Richard Schöne, director-general of the Prussian Museums, has guided the execution, transportation, and installation of this admirable gift. Nor should other friends and supporters of the Museum fail of grateful recognition in this report. Chief among them are: the late Professor Herman Grimm; Dr. Theodor von Holleben, formerly German Ambassador at Washington; Dr. Heinrich Angst, director of the Swiss National Museum; Dr. Althoff, government commissioner of the Prussian universities; Dr. Julius Lessing, director of the Royal Museum of Arts and Crafts at Berlin; Professor A. Brandl of Berlin University;

Herr Arthur Gwinner, director of the Deutsche Bank; Mr. Heinrich Conried, director of the Irving Place Theatre of New York; the late Mr. Barthold Schlesinger of Brookline; the officers of the Germanic Museum Association; the United German Singing Societies of Boston; the Council of the North American Turnerbund at Indianapolis. May the further development of our Museum be worthy of the disinterested care bestowed upon it by these and many other helpers and sympathizers.

The rapid review given above of the collection as now installed makes it clear that, although our Museum is the first even partially successful attempt either in this country or abroad to equip a university with representative specimens of the artistic growth of a modern nation, it is nevertheless nothing but a small and tentative beginning of what its name, Germanic Museum, implies. At present it is *not* a Germanic Museum; it is an exhibition, inadequately housed, of some striking specimens of German art. The Germanic Museum of the future is to illustrate the whole development of Germanic life in its artistic and industrial manifestations throughout Europe, on English, Dutch, Scandinavian, Swiss, Austrian soil, no less than German.

Every one of the objects now contained in the Museum is to expand into one or more categories of kindred objects. Instead of the one model of a Germanic boat from the fifth century, mentioned before, we must have three or four rooms filled with reproductions of implements, utensils, arms, and with models of mounds and dwellings, representing conditions of life on Germanic soil from the time of the lake-dwellers in Switzerland to the Anglo-Saxon invasion of England and the piratic expeditions of the Norsemen. Instead of the one figure of a Frankish warrior of the seventh century, we must have a comprehensive collection of similar objects, illustrating the influence of Roman civilization upon Germany from the time of Augustus to the establishment of the Karolingian empire. Instead of the two or three mediaeval sarcophagi now in our possession, we must have a systematically arranged display of sepulchral monuments from the tomb of Henry the Lion at Brunswick to the Mausoleum of the Prussian kings at Charlottenburg. Instead of the one Renaissance door from a patrician house at Nuremberg, we must have a large array of objects representing the various stages in the development of the Germanic house. We must have types, among others, of the Frisian, Saxon, Swabian, Bavarian, Anglo-Saxon, Scandinavian farmhouse; models of the mediaeval town hall; models of the mediaeval castle; reproductions of the interiors of houses from the sixteenth century on. We could, for instance, easily reproduce a whole story of the Dürer house at Nuremberg, the Elizabeth or the Luther room at the Wartburg, part of the interior of the Goethe house at Frankfurt, and similar historic rooms which, apart from the more personal interest attached to them by the memory of great men, would at the same time be miniature illustrations of the domestic life of the epochs to which they belonged. We must, in brief, make this Museum a comprehensive, yet condensed, historical conspectus of the artistic and technical activity of our race. Only when this has been accomplished will it truly deserve the name of a Germanic Museum.

It is clear that, in order to bring about this consummation devoutly to be hoped for, two things are necessary: (1) a continuous influx either of money or of suitable and representative objects, and (2) a large and monumental building, making possible a truly historical and at the same time artistic arrangement of the various parts of the collection. As to the first point, we may rest assured that the magnificent gifts from the German Emperor, the Swiss Government, and the Committee of German citizens at Berlin, which either have been installed already or shortly are to arrive, will stimulate other gifts from many quarters. May we not also hope that a building worthy to shelter these precious symbols of the Germanic past will be given before long?

KUNO FRANCKE, *Curator.*

RADCLIFFE COLLEGE.

To the President of the University: —

Sir, — As Dean of Radcliffe College, I have the honor to submit my report for the academic year 1902–03.

The number of students in actual attendance during the year was 429, as against 456 during the preceding year.

Graduate Students	43
Seniors	67
Juniors	68
Sophomores	83
Freshmen	75
Special Students	93
Total	429

At Commencement in June, 1903, eighty students, two of whom had not been in residence during the year, received the degree of Bachelor of Arts. Sixteen students, who had not been registered as Seniors, received the degree, and five, who had been so registered, failed to receive it. Of the eighty successful candidates, two received the degree *summa cum laude;* sixteen received it *magna cum laude;* twenty-five *cum laude.*

Nineteen students received the degree of Master of Arts. Eight of the nineteen had taken their first degree at Radcliffe; the others represented the following colleges: Acadia University, Colorado College, Dalhousie University, Lake Forest University, McGill University, Northwestern University, Smith College, University of Toronto, Wellesley College, University of Wisconsin.

Examinations for admission were held in June, 1903, in Cambridge and New York; in Albany, Bonn (Germany), Brookline, Chicago, Cincinnati, Exeter (N.H.), Fall River, Louisville (Ky.), Lynn, Milton, Osaka (Japan), Philadelphia, Portland (Me.), Quincy, South Byfield, Springfield, Washington (Conn.), Worcester, and Youngstown (Ohio). They were also held in September in Cambridge. Three hundred and twenty-two candidates presented themselves for examination. Thirteen were candidates for admission as special students; fifty-three candidates took part of the examination or worked off admission conditions; one candidate was examined for advanced standing; one hundred and twenty-six took the Preliminary Examinations, and one hundred and twenty-four the Final Examinations. Three Postponing candidates were rejected, and two did not complete their examinations.

The results of the Final Examinations are given in the following table: —

	Admitted.	Admitted "Clear."	Rejected.
June	108	46	6
September	8		2
Total	116		8
Total rejected . . .	8		
	124		

One hundred and sixteen candidates were admitted as Freshmen in 1903, as against eighty-eight in 1902.

Forty-three Graduate Students registered during the year, twenty-seven of whom were from other colleges. Twenty-nine students were admitted to thirteen full courses, and thirty-two students to sixteen half-courses of the "Courses primarily for Graduates in Harvard University open to competent students of Radcliffe College."

Classical Philology was taken	by sixteen students.
German was taken	by five students.
Germanic Philology was taken	by seven students.
History was taken	by two students.
Government was taken	by one student.
Philosophy was taken	by four students.
Education was taken	by seventeen students.
Music was taken	by one student.
Mathematics was taken	by eleven students.

The number of courses offered in 1902–03 was 171½; they were offered by 117 professors and instructors in Harvard University.

The members of the Academic Board for 1902–03 were: Professors Byerly (chairman), Warren, Mark, Wright, Macvane, Hall, von Jagemann, Grandgent, and Kittredge, and the President and the Dean of Radcliffe College.

Bertram Hall has had a happy and prosperous year, and the need for a second hall is now apparent.

The gifts of the year, though not many, have been singularly interesting. One splendid gift, — a sum of money for what is known as a Students' House, — meets a pressing need of Radcliffe College. In a college like Radcliffe, where hundreds of young women must spend the long hours of the working-day, provision must be made for food and rest, for recreation and social intercourse, and a building for the purpose is an absolute necessity, in order that the dining-rooms and quiet rooms, the rooms for social gatherings and for the breaks in the day's work may be kept apart from the academic building. This was the need of Radcliffe which appealed most strongly to Mrs. Agassiz, and, in the autumn of 1902, her children and grandchildren offered to give Radcliffe College $50,000 for a Students' House, if an equal sum were raised or promised before the fifth of December, in order that on that day, her eightieth birthday, Mrs. Agassiz might be told that her cherished wish was about to be fulfilled. The Radcliffe Alumnae Association, who had already undertaken to raise $100,000 for the purpose, and two friends of the College, who had the matter deeply at heart, joined forces with the committee, forty-one in number, who took the matter in hand; the work proved a labor of love; the sum asked for, and more, — $116,500, — was given or pledged; the secret from Mrs. Agassiz was perfectly kept; and on her birthday she had the great happiness of knowing that her hope would be realized. The building is to be called the Elizabeth Agassiz House; the site has been chosen, in the Radcliffe precincts, next to the Gymnasium; and plans have been drawn by Mr. A. W. Longfellow.

A second gift of great interest is the establishment in Radcliffe College, for an experimental period of two years, of a fellowship to be called the South End House Fellowship to be devoted to the promotion of the study of social problems by women. The incumbent is to be registered as a graduate, or special, student in Radcliffe College, but to reside during eleven months of the year in the South End House (Women's Residence) in Boston. She is to be nominated each year by the Dean of Radcliffe College and the Professor of Sociology in Harvard College, in conference with the Head of the South End House and the donor of the Fellowship, Miss Annette P. Rogers. The holder of the Fellowship is to devote not less than half her working-time to the original investigation of some concrete problem of the city-life in Boston. The Fellow for the year 1903–04 is a Radcliffe graduate, Charlotte Henrietta Price, A.B. 1901.

A third gift was announced at Commencement, the gift of $2,500 by the Cantabrigia Club of Cambridge, towards a Scholarship to be known as the Cantabrigia Scholarship and to be held by preference by a resident of Cambridge. This gift from our friends and neighbors is deeply appreciated. The Cantabrigia Club sets a noble example to the Women's Clubs in Massachusetts, many of whom have already befriended our students. There is no better service to the Commonwealth than to open the way into college to those able and deserving young women who cannot work their way as easily as men do, and who run the risk of working it at too great a cost.

A fourth gift was to the Library, the sum of $909, a sum which had been nicely calculated to cover the needs of the Library in books for the Classical Department. For this Radcliffe has to thank one donor, Edgar Scott. The books in memory of Professor Greenough have been purchased and are a great addition to the Library. An anonymous giver has added $100 to the Arthur Gilman Book-fund. The number of volumes in the Radcliffe Library is now very nearly twenty thousand; they are lodged in a wooden building, many of them out of easy reach, and the rooms are overcrowded with students, who come to the Library for the legitimate and wholesome purpose of study. To the Alumnae and to some of the Associates, as well as to the undergraduates, the first need of the College in the way of a building is a place to house the books, and to give the students ample opportunity to use them. Radcliffe needs only a working-library; it asks for a building to make that working-library available, and also for the endowment of such a building.

But, even before a library building, before a second hall of residence, which will soon be indispensable, comes the need of a large addition to the endowment fund, — a large unrestricted addition. In the Summer of 1903, a large gift was assured to the College, but only in the future, and the need of money is felt now by Radcliffe as it has never before been felt.

At the meeting of the Associates in June, 1903, Mrs. Agassiz formally withdrew from her position in Radcliffe College, and Le Baron Russell Briggs, Dean of the Faculty of Arts and Sciences in Harvard University, was unanimously elected President of Radcliffe College. What Mrs. Agassiz has been and is still to Radcliffe College, no one needs to say. What Mr. Briggs has been to Harvard College in the past, what he will surely be to Radcliffe College in the future, no one can know so well as the President of Harvard University.

AGNES IRWIN, *Dean.*

APPENDIX.

DEATHS.

[*Persons who died in 1902–03 while holding a University appointment.*]

George Haven, Instructor in Gynaecology. September 27, 1903.

Henry Barker Hill, Professor of Chemistry and Director of the Chemical Laboratory. April 6, 1903.

Arthur Lincoln, Overseer. December 10, 1902.

RESIGNATIONS.

Charles Frederick Covert Arensberg, Assistant in English, to take effect September 1, 1903.

Charles Hamilton Ashton, Instructor in Mathematics, to take effect September 1, 1903.

John Washburn Bartol, Assistant in Clinical Medicine. January 26, 1903.

Albert Francis Blakeslee, Austin Teaching Fellow in Botany. June 23, 1903.

Charles Herbert Boxmeyer, Austin Teaching Fellow in Comparative Pathology. May 11, 1903.

John Higginson Cabot, 2d, Assistant in History. June 29, 1903.

Philip Greenleaf Carleton, Assistant in English. November 24, 1902.

John Firman Coar, Instructor in German. June 29, 1903.

Franklin Dexter, Associate Professor of Anatomy. March 30, 1903.

Frank Winthrop Draper, Professor of Legal Medicine. May 11, 1903.

George Lincoln Forrest, Instructor in Operative Dentistry. November 10, 1902.

Sanford Henry Eisner Freund, Assistant in English, to take effect September 1, 1903.

Ralph Tracy Hale, Assistant in English. June 23, 1903.

Alphonse Marin La Meslée, Instructor in French. April 27, 1903.

Waldo Gifford Leland, Assistant in History. January 26, 1903.

Gilbert Simrall Meem, Jr., Proctor, to take effect September 1, 1903.

Hugo Richard Meyer, Instructor in Economics. May 26, 1903.

Charles Whitney Mixter, Instructor in Economics, to take effect September 1, 1903.

Charles Burnham Porter, Professor of Clinical Surgery. February 9, 1903.

Motte Alston Read, Instructor in Physiography. April 27, 1903.

Arthur Charles Rounds, Lecturer on New York Practice. January 12, 1903.

Frank Russell, Instructor in Anthropology. May 11, 1903.

Charles Stephen Shaughnessy, Instructor in Mathematics and Surveying, to take effect September 1, 1903.

Crawford Howell Toy, Dexter Lecturer on Biblical Literature, to take effect September 1, 1903.

Daniel Lawrence Turner, Instructor in Surveying and Hydraulics. April 13, 1903.

Frederick Warren Turner, Assistant in Shopwork, to take effect September 1, 1903.

Oliver Fairfield Wadsworth, Williams Professor of Ophthalmology. April 13, 1903.

Henry Pickering Walcott, Chairman of the Committee on the University Museum. December 29, 1902.

Kenneth Grant Tremaine Webster, Instructor in English. June 1, 1903.

Edgar Huidekoper Wells, Assistant in English. November 24, 1902.

Robert Maximilian Ottomar Wernaer, Instructor in German. April 27, 1903.

Frederick Wilkey, Steward of the Randall Hall Association, to take effect September 1, 1903.

APPOINTMENTS.

FACULTY OF ARTS AND SCIENCES.

[*Without limit of time, or for more than one year.*]

Abram Piatt Andrew, Assistant Professor of Economics for five years from September 1, 1903. March 30, 1903.

Irving Babbitt, Assistant Professor of French for five years from September 1, 1902. November 24, 1902.

Charles Jesse Bullock, Assistant Professor of Economics for five years from September 1, 1903. May 11, 1903.

William Ernest Castle, Assistant Professor of Zoölogy for five years from September 1, 1903. June 1, 1903.

George Henry Chase, Tutor in Greek for three years from September 1, 1903. March 2, 1903.

Edwin Francis Gay, Assistant Professor of Economics for five years from September 1, 1903. March 30, 1903.

William Fenwick Harris, Assistant Professor of Greek for five years from September 1, 1902. October 27, 1902.

Hector James Hughes, Assistant Professor of Hydraulics and Sanitary Engineering for five years from September 1, 1903. March 30, 1903.

Thomas Augustus Jaggar, Jr., Assistant Professor of Geology for five years from September 1, 1903. March 30, 1903.

Charles Rockwell Lanman, Wales Professor of Sanskrit. March 23, 1903.

Gilbert Newton Lewis, Instructor in Chemistry for three years from September 1, 1903. January 12, 1903.

Theodore Lyman, Instructor in Physics from September 1, 1903. May 26, 1903.

Dickinson Sergeant Miller, Instructor in Philosophy from September 1, 1903. March 30, 1903.

Clifford Herschel Moore, Assistant Professor of Greek and Latin for five years from September 1, 1903. March 30, 1903.

Frederick Law Olmsted, Jr., Charles Eliot Professor of Landscape Architecture from September 1, 1903. June 23, 1903.

William Fogg Osgood, Professor of Mathematics from September 1, 1903. March 23, 1903.

George Washington Pierce, Instructor in Physics from September 1, 1903. May 26, 1903.

Charles Robert Sanger, Director of the Chemical Laboratory, May 26, 1903; Professor of Chemistry from September 1, 1903. June 23, 1903.

George Santayana, Assistant Professor of Philosophy for five years from September 1, 1903. March 30, 1903.

William Henry Schofield, Assistant Professor of English for five years from September 1, 1902. October 27, 1902.

Walter Raymond Spalding, Assistant Professor of Music for five years from September 1, 1902. October 27, 1902.

Henry Augustus Torrey, Instructor in Chemistry from September 1, 1903. June 1, 1903.

Robert Wheeler Willson, Professor of Astronomy. May 11, 1903.

[*For 1902–03.*]

Charles Frederick Covert Arensberg, Assistant in English. November 10, 1902.

Frank Aydelotte, Assistant in English. November 10, 1902.

Charles Beardsley, Instructor in Economics. November 10, 1902.

Gustave Edward Behr, Jr., Assistant in Chemistry. September 26, 1902.

Holland Edward Benedict, Assistant in Chemistry. October 13, 1902.

Otis Fisher Black, Assistant in the Chemical Laboratory. October 13, 1902.

Frederic Bonnet, Jr., Assistant in Chemistry. September 26, 1902.

Paul Gustav Adolph Busse, Assistant in German. November 10, 1902.

Alfred Munson Butler, Assistant in Chemistry. September 26, 1902.

Philip Greenleaf Carleton, Instructor in English. November 10, 1902.

Henry Avery Carlton, Assistant in Chemistry. September 26, 1902.

Howard Hastings Carroll, Assistant in Mechanical Drawing. October 13, 1902.

Charles Emerson Corson, Assistant in Chemistry. October 13, 1902.

Paul Revere Curtis, Assistant in Mining and Metallurgy. October 27, 1902.

Arthur Stone Dewing, Assistant in Philosophy. October 27, 1902.

George Rowland Dodson, Assistant in Philosophy. October 27, 1902.

Frederic Gerber Dorety, Assistant in Government. November 10, 1902.

Henry William Dubée, Instructor in German. October 13, 1902.

Alfred Edward Ells, Assistant in English. November 10, 1902.

William Curtis Farabee, Austin Teaching Fellow in Anthropology. November 10, 1902.

George Shannon Forbes, Assistant in Chemistry. September 26, 1902.

Sanford Henry Eisner Freund, Assistant in English. November 10, 1902.

Henry Brayton Gardner, Lecturer on the Financial History of the United States. September 26, 1902.

Jesse More Greenman, Instructor in Botany and Assistant at the Gray Herbarium. November 10, 1902.

Ernst Hermann Paul Grossmann, Instructor in German. October 13, 1902.

Ralph Tracy Hale, Assistant in English. November 10, 1902.

Adam Leopold Haskell, Austin Teaching Fellow in Engineering. October 13, 1902.

Walter Stern Heilborn, Assistant in Government. November 10, 1902.

Harry Peters Henderson, Instructor in Mining. March 9, 1903.

John Philip Hill, Assistant in Government. November 10, 1902.

Murray Arnold Hines, Assistant in Chemistry. September 26, 1902.

Prentiss Cheney Hoyt, Instructor in English. November 10, 1902.

Percy Adams Hutchison, Assistant in Philosophy. October 27, 1902.

John Perham Hylan, Assistant in Philosophy. October 27, 1902.

Gordon Ireland, Assistant in Philosophy. October 13, 1902.

Richard Fay Jackson, Assistant in Chemistry. October 13, 1902.

Karl Detlev Jessen, Instructor in German. October 13, 1902.

John Robert Johnston, Austin Teaching Fellow in Botany. October 13, 1902.

John Frank Langmaid, Assistant in Chemistry. September 26, 1902.

Kenneth Lamartine Mark, Assistant in Chemistry. September 26, 1902.

Junius Lathrop Meriam, Assistant in Philosophy. October 27, 1902.

Frederic William Morrison, Assistant in French. September 26, 1902.

Horace Henry Morse, Assistant in History. November 10, 1902.

James Blair Newell, Assistant in History for the second half-year. March 2, 1903.

James Sturgis Pray, Assistant in Landscape Architecture. October 13, 1902.

William Richard Ransom, Instructor in Mathematics. October 27, 1902.

Albin Leal Richards, Instructor in International Law. November 10, 1902.

Fred Morton Roberts, Assistant in Government. November 10, 1902.

David Camp Rogers, Assistant in Philosophy. October 27, 1902.

Arthur Julius Schoenfuss, Assistant in Mining and Metallurgy. October 27, 1902.

Philipp Seiberth, Instructor in German. October 13, 1902.

Schuyler B Serviss, Assistant in Physics. November 10, 1902.

Augustus Hunt Shearer, Assistant in History. November 10, 1902.

Henry Robinson Shipman, Assistant in History. October 13, 1902.

Philip Sidney Smith, Austin Teaching Fellow in Geology. November 10, 1902.

Horace Baxter Stanton, Assistant in English. November 10, 1902.

Herbert King Stockton, Assistant in English. November 10, 1902.

Henry Leroy Stone, Assistant in Music. November 10, 1902.

John Strong Perry Tatlock, Assistant in English. November 10, 1902.

James Waddell Tupper, Instructor in English. November 10, 1902.

Robert Palfrey Utter, Assistant in English. November 10, 1902.

Charles Ben Van Wie, Assistant in Philosophy. October 27, 1902.

David Hutton Webster, Austin Teaching Fellow in Economics. October 27, 1902.

Edgar Huidekoper Wells, Instructor in English. November 10, 1902.

Plumer Wheeler, Assistant in Chemistry. November 10, 1902.

Harry Oscar Wood, Assistant in Mineralogy and Petrography. September 26, 1902.

Arthur Dickinson Wyman, Assistant in Chemistry. September 26, 1902.

[*For the Calendar Year 1903.*]

Cyrus Guernsey Pringle, Botanical Collector. March 30, 1903.

[*For 1903–04.*]

Oakes Ames, Instructor in Botany. March 30, 1903.

Charles Frederick Covert Arensberg, Assistant in English. March 30, 1903.

Charles Hamilton Ashton, Instructor in Mathematics. May 26, 1903.

Charles Hamilton Ayres, Instructor in Physics. March 30, 1903.

Newton Samuel Bacon, Assistant in Hygiene. April 13, 1903.

William Wilson Baker, Instructor in Latin. March 30, 1903.

Bird Thomas Baldwin, Assistant in Philosophy. April 13, 1903.

Otis Fisher Black, Assistant in the Chemical Laboratory. March 30, 1903.

Albert Francis Blakeslee, Austin Teaching Fellow in Botany. May 11, 1903.

Albert Wilhelm Boesche, Instructor in German. April 27, 1903.

Foster Partridge Boswell, Assistant in Philosophy. April 13, 1903.

Herbert Melville Boylston, Assistant in Metallurgy. May 26, 1903.

Henry Cook Boynton, Instructor in Metallurgy and Metallography. March 30, 1903.

Haven Darling Brackett, Assistant in History. April 27, 1903.

Carleton Fairchild Brown, Instructor in English. June 23, 1903.

Alphonse Brun, Instructor in French. March 30, 1903.

John Higginson Cabot, 2d, Assistant in History. April 13, 1903.

Antonio Alfredo Capotosto, Assistant in Italian. March 30, 1903.

Edward Capps, Lecturer on the Greek Theatre. March 2, 1903.

Philip Greenleaf Carleton, Instructor in English. March 30, 1903.

William Richard Castle, Jr., Assistant in English. June 23, 1903.

Lyman Kenneth Clark, Assistant in Government. April 13, 1903.

John Firman Coar, Instructor in German. March 30, 1903.

John Felt Cole, Instructor in Astronomy. March 30, 1903.

Leon Jacob Cole, Austin Teaching Fellow in Zoölogy. March 30, 1903.

William Morse Cole, Instructor in the Principles of Accounting. March 30, 1903.

Frederick Sheppard Converse, Instructor in Music. May 26, 1903.

Paul Revere Curtis, Assistant in Ore-dressing and Assaying. March 30, 1903.

Vanderveer Custis, Assistant in Economics. March 30, 1903.

Stuart Daggett, Assistant in Economics. March 30, 1903.

George Henry Danton, Austin Teaching Fellow in German. April 27, 1903.

Arthur Stone Dewing, Assistant in Philosophy. April 13, 1903.

Horatio Willis Dresser, Assistant in Philosophy. April 13, 1903.

Charles Mathieu Dumas, Assistant in French. May 26, 1903.

Bernard Capen Ewer, Assistant in Philosophy. April 13, 1903.

William Curtis Farabee, Instructor in Anthropology. June 1, 1903.

Merritt Lyndon Fernald, Instructor in Botany and Assistant at the Herbarium. March 30, 1903.

James Alfred Field, Assistant in Economics. March 30, 1903.

Richard Thornton Fisher, Instructor in Forestry. June 1, 1903.

John Murray Fox, Austin Teaching Fellow in Mining and Metallurgy. March 30, 1903.

Sanford Henry Eisner Freund, Assistant in English. March 30, 1903.

Arthur Bowes Frizell, Instructor in Mathematics. March 30, 1903.

Charles Edmund Fryer, Assistant in History. April 13, 1903.

Andrew Garbutt, Instructor in Modeling. March 30, 1903.

James Augustus George, Assistant in Government. April 13, 1903.

James Walter Goldthwait, Austin Teaching Fellow in Geology. May 26, 1903.

Jesse More Greenman, Instructor in Botany. June 8, 1903.

William Mumford Gregory, Assistant in Palaeontology. March 30, 1903.

Ernst Hermann Paul Grossmann, Instructor in German. March 30, 1903.

Ralph Tracy Hale, Assistant in English. March 30, 1903.

Thomas Hall, Jr., Instructor in English. March 30, 1903.

Edward William Hamill, Assistant in German. April 27, 1903.

Charles Sumner Hamlin, Lecturer on United States Government Service. March 23, 1903.

Lyman Sawin Hapgood, Assistant in Hygiene. April 13, 1903.

Adam Leopold Haskell, Austin Teaching Fellow in Engineering. March 30, 1903.

Henry Harrison Haynes, Instructor in Semitic Languages. March 9, 1903.

Lewis Dana Hill, Austin Teaching Fellow in Physics. March 30, 1903.

Arthur Stedman Hills, Instructor in Elocution. April 27, 1903.

Murray Arnold Hines, Assistant in Quantitative Analysis. May 4, 1903.

Edwin Bissell Holt, Instructor in Psychology. March 30, 1903.

Donald Winthrop Howes, Assistant in Mechanical Drawing. March 30, 1903.

Prentiss Cheney Hoyt, Instructor in English. March 30, 1903.

Edward Vermilye Huntington, Instructor in Mathematics. March 30, 1903.

Percy Adams Hutchison, Assistant in Philosophy. April 13, 1903.

John Perham Hylan, Assistant in Philosophy. April 13, 1903.

John George Jack, Instructor in Forestry. June 23, 1903.

John Robert Johnston, Austin Teaching Fellow in Botany. June 23, 1903.

Charles Julius Kullmer, Instructor in German. March 30, 1903.

Alphonse Marin La Meslée, Instructor in French. March 30, 1903.

John Frank Langmaid, Assistant in Chemistry. June 8, 1903.

Austin Park Larrabee, Assistant in Zoölogy. March 30, 1903.

Rollo Lu Verne Lyman, Instructor in English. June 23, 1903.

William Edward McClintock, Instructor in Highway Engineering. March 30, 1903.

Thomas Calvin McKay, Assistant in Physics. March 30, 1903.

Roger Bigelow Merriman, Instructor in History. March 30, 1903.

Hugo Richard Meyer, Lecturer on Economics. May 26, 1903.

Robert Bell Michell, Instructor in Romance Languages. April 13, 1903.

Charles Whitney Mixter, Instructor in Economics. March 30, 1903.

Gilbert Holland Montague, Assistant in Economics. March 30, 1903.

Sylvanus Griswold Morley, Instructor in Romance Languages and Literatures. March 30, 1903.

Horace Henry Morse, Assistant in History. April 13, 1903.

Harry Wheeler Morse, Instructor in Physics. March 30, 1903.

Martin Mower, Instructor in Fine Arts. March 30, 1903.

WILLIAM LUTHER MOWLL, Instructor in Architecture. March 2, 1903.

JAMES AMBROSE MOYER, Instructor in Descriptive Geometry. March 30, 1903.

HERMAN DUDLEY MURPHY, Instructor in Drawing from the Life. March 30, 1903.

ARTHUR BECKWITH MYRICK, Austin Teaching Fellow in Romance Languages. March 30, 1903.

JAMES BLAIR NEWELL, Assistant in History. May 11, 1903.

ARTHUR EDWIN NORTON, Instructor in Mechanical Drawing. March 30, 1903.

CARLETON ELDREDGE NOYES, Instructor in English. March 30, 1903.

CHARLES READ NUTTER, Instructor in English. March 30, 1903.

HANNS OERTEL, Lecturer on Comparative Philology. March 2, 1903.

RALPH BARTON PERRY, Instructor in Philosophy. March 30, 1903.

AMON BENTON PLOWMAN, Assistant in Botany. March 30, 1903.

ARTHUR POPE, Assistant in Fine Arts. March 30, 1903.

MURRAY ANTHONY POTTER, Instructor in Romance Languages. March 30, 1903.

JAMES STURGIS PRAY, Instructor in Landscape Architecture. March 2, 1903.

HANS HUGO PRINGSHEIM, Assistant in Chemistry; Lecturer on Industrial Chemistry. June 23, 1903.

PAUL HECTOR PROVANDIE, Assistant in Hygiene. April 13, 1903.

HERBERT WILBUR RAND, Instructor in Zoölogy. March 30, 1903.

JAMES WALTER RANKIN, Assistant in English. June 23, 1903.

MOTTE ALSTON READ, Instructor in Physiography. March 30, 1903.

THOMAS HARRY REED, Assistant in Government. April 13, 1903.

WILLIAM HOWELL REED, Jr., Instructor in German. September 29, 1903.

FREDERICK WILLIAM REYNOLDS, Instructor in English. March 30, 1903.

HENRY MILNER RIDEOUT, Instructor in English. March 30, 1903.

GUY HALL ROBERTS, Assistant in Government. April 13, 1903.

DAVID CAMP ROGERS, Assistant in Philosophy. May 26, 1903.

LOUIS ROSS, Austin Teaching Fellow in Applied Mechanics. June 29, 1903.

FREDERICK WILLIAM RUSSE, Austin Teaching Fellow in Organic Chemistry. March 30, 1903.

ARTHUR WILLIAM RYDER, Instructor in Indic Philology. March 30, 1903.

SCHUYLER B SERVISS, Assistant in Physics. March 30, 1903.

ARTHUR BLISS SEYMOUR, Assistant at the Cryptogamic Herbarium. September 29, 1903.

ARTHUR ASAHEL SHURTLEFF, Instructor in Landscape Architecture. March 30, 1903.

MACY MILLMORE SKINNER, Instructor in German. March 30, 1903.

GRANT SMITH, Austin Teaching Fellow in Zoölogy. March 30, 1903.

JOSEPH LINDON SMITH, Instructor in Freehand Drawing. May 11, 1903.

PHILIP SIDNEY SMITH, Instructor in Geology. May 26, 1903.

WILLIAM BRACKETT SNOW, Instructor in Methods of Teaching French. April 27, 1903.

CHARLES MINER STEARNS, Assistant in English. March 30, 1903.

JOSEPH TRUMBULL STICKNEY, Instructor in Greek. March 23, 1903.

FREDERIC JESUP STIMSON, Lecturer on Tendencies of American Legislation. March 23, 1903.

HENRY LEROY STONE, Assistant in Music. March 30, 1903.

ALBERT MOREY STURTEVANT, Instructor in German. March 30, 1903.

WALTER DANA SWAN, Instructor in Architecture. March 30, 1903.

Walter Sheldon Tower, Assistant in Physiography and Meteorology. June 8, 1903.

James Waddell Tupper, Instructor in English. March 30, 1903.

Frederick Jackson Turner, Lecturer on American History. March 30, 1903.

Frederick Warren Turner, Assistant in Shopwork. March 30, 1903.

William Barrett Updegraff, Assistant in Mechanical Drawing. March 30, 1903.

Robert Palfrey Utter, Assistant in English. March 30, 1903.

Frank De Witt Washburn, Assistant in the Architectural Library. March 30, 1903.

Hermann Julius Weber, Austin Teaching Fellow in German. June 8, 1903.

David Hutton Webster, Austin Teaching Fellow in Economics. May 26, 1903.

Kenneth Grant Tremaine Webster, Instructor in English. March 30, 1903.

Edgar Huidekoper Wells, Instructor in English. March 30, 1903.

Roger Clark Wells, Assistant in Physical Chemistry. March 30, 1903.

Robert Maximilian Ottomar Wernaer, Instructor in German. March 30, 1903.

Stephen Edgar Whiting, Instructor in Electrical Engineering. March 30, 1903.

Arthur Fisher Whittem, Austin Teaching Fellow in Romance Languages. March 30, 1903.

Bertel Glidden Willard, Instructor in Elocution. April 27, 1903.

James Jacob Wolfe, Austin Teaching Fellow in Botany. May 11, 1903.

Harry Oscar Wood, Assistant in Mineralogy and Petrography. Aprill 27, 1903.

James Haughton Woods, Instructor in the Philosophical Systems of India. June 8, 1903.

Chester Whitney Wright, Assistant in Economics. March 30, 1903.

Bruce Wyman, Lecturer on Legal Principles Applied to Industries. March 30, 1903.

Robert Mearns Yerkes, Instructor in Psychology. March 30, 1903.

MEMBERS OF THE ADMINISTRATIVE BOARD OF HARVARD COLLEGE.

June 23, 1903.

Richard Cobb.
Archibald Cary Coolidge,
George Washington Cram.
John Hays Gardiner.
Charles Burton Gulick.
John Goddard Hart.
Byron Satterlee Hurlbut, *Dean*.
Lewis Jerome Johnson.
Charles Palache.
Charles Pomeroy Parker.
Robert DeCourcy Ward.
James Kelsey Whittemore.
Robert Wheeler Willson.
Jay Backus Woodworth.
Charles Henry Conrad Wright.

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE LAWRENCE SCIENTIFIC SCHOOL.

APPOINTED JUNE 29, 1903, UNLESS OTHERWISE STATED.

Comfort Avery Adams.
William Ernest Castle.
Eugene Abraham Darling, Sept. 29, 1903.
John Goddard Hart, Sept. 29, 1903.
Ira Nelson Hollis.
Edward Charles Jeffrey.
Frank Lowell Kennedy.
James Lee Love.
Arthur Orlo Norton.
Charles Robert Sanger.
Nathaniel Southgate Shaler, *Dean*.
Henry Lloyd Smyth.
Herbert Langford Warren.

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE GRADUATE SCHOOL.

JUNE 29, 1903.

Maxime Bôcher.
William Morris Davis.
Charles Loring Jackson.
Hans Carl Gunther von Jagemann.
George Lyman Kittredge.
Abbott Lawrence Lowell.
George Foot Moore.
Hugo Münsterberg.
John Henry Wright, *Dean*.

PROCTORS.

[*For 1902–03.*]

Horace Forbes Baker. October 27, 1902.
Charles Beardsley. March 2, 1903, for the remainder of the academic year.
Philip Greenleaf Carleton. October 13, 1902.
Robert Jackson Cram. January 26, 1903.
Frederic Louis Fischer. September 26, 1902.
Andrew Marshall. September 26, 1902.
Guy Murchie. September 26, 1902.
Arthur William Ryder. September 26, 1902.
Clinton Homer Scovell. October 13, 1902.
Roger Clark Wells. October 27, 1902.

[*For 1903–04.*]

APPOINTED SEPTEMBER 29, 1903, UNLESS OTHERWISE STATED.

Bird Thomas Baldwin. June 23, 1903.
William Lester Barnes.
Lynn Staley Beals.
Dwight St. John Bobb.
Edward Bowditch, Jr. June 23, 1903.
Joseph Gardner Bradley.
Frederick Walton Carpenter.
Lyman Kenneth Clark. June 23, 1903.
William Arnold Colwell.
Robert Jackson Cram.
Earl Clement Davis. Divinity Hall, June 1, 1903.
Roger Ernst. June 23, 1903.
Bernard Capen Ewer.
James Alfred Field. June 23, 1903.

James Augustus George.
James Walter Goldthwait. June 23, 1903.
Warwick Greene.
Chester Noyes Greenough.
Donald Gregg. June 23, 1903.
William George Lee.
Andrew Marshall.
Harold Weston Mason.
Gilbert Simrall Meem, Jr.
Gilbert Holland Montague.
Charles Read Nutter. June 23, 1903.
James Horace Patten.
Robert William Sawyer, Jr. June 23, 1903.
Clinton Homer Scovell.
Arthur Henry Weed. June 23, 1903.
Roger Clark Wells.
Barrett Wendell, Jr.
Henry Aaron Yeomans.

MEMBERS OF THE BOARD OF EXAMINATION PROCTORS.

November 10, 1902.

William Lester Barnes.
Albert Francis Blakeslee.
Dwight St. John Bobb.
Frederic Bonnet, Jr.
Daniel Francis Calhane.
Frederic Walton Carpenter.
Howard Hastings Carroll.
Lyman Kenneth Clark.
John Felt Cole.
Aldrich Durant.
George Shannon Forbes.
Charles Edmund Fryer.
James Augustus George.
James Walter Goldthwait.
Lyman Sawin Hapgood.
John Perham Hylan.
Gordon Ireland.
Charles Julius Kullmer.
Waldo Gifford Leland.
Maurice Lawrence McCarthy.
Kenneth Lamartine Mark.
Leon Carroll Marshall.
Junius Lathrop Meriam.
Frederic William Morrison.
Charles Read Nutter.
James Horace Patten.
Amos William Peters.
Frederick William Reynolds.
Augustus Hunt Shearer.
Grant Smith.
Philip Sidney Smith.
Malcolm Enos Stickney.
William Earle Stillwell.
Albert Morey Sturtevant.
Henry Smith Thompson.
Roger Clark Wells.
Harry Oscar Wood.
Arthur Dickinson Wyman.
Henry Aaron Yeomans.
Robert Mearns Yerkes.

DIVINITY SCHOOL.

[*Without limit of time, or for more than one year.*]

James Hardy Ropes, Bussey Professor of New Testament Criticism and Interpretation, March 30, 1903; Dexter Lecturer on Biblical Literature from September 1, 1903. September 29, 1903.

LAW SCHOOL.

[*Without limit of time, or for more than one year.*]

James Barr Ames, Dane Professor of Law. January 26, 1903.

Joseph Henry Beale, Jr., Bussey Professor of Law. May 26, 1903.

Charles Francis Dorr Belden, Assistant Librarian of the Law School from September 1, 1902. September 26, 1902.

Frederic Louis Fischer, Secretary of the Faculty of Law from September 1, 1902. September 26, 1902.

Eugene Wambaugh, Langdell Professor of Law. May 26, 1903.

Samuel Williston, Weld Professor of Law. May 26, 1903.

Bruce Wyman, Assistant Professor of Law for five years from September 1, 1903. April 13, 1903.

[*For 1902–03.*]

Rufus William Sprague, Jr., Lecturer on New York Practice for the remainder of the academic year. January 12, 1903.

[*For 1903–04.*]

Wallace Brett Donham, Lecturer on Equity. June 8, 1903.

Frederick Green, Lecturer on Admiralty. June 8, 1903.

William Rodman Peabody, Lecturer on Criminal Law. April 13, 1903.

Ezra Ripley Thayer, Lecturer on Massachusetts Practice. April 13, 1903.

MEDICAL SCHOOL.

[*Without limit of time, or for more than one year.*]

Henry Pickering Bowditch, George Higginson Professor of Physiology. December 29, 1902.

Edward Hickling Bradford, Professor of Orthopedic Surgery. March 2, 1903.

Herbert Leslie Burrell, Professor of Clinical Surgery. March 2, 1903.

Walter Bradford Cannon, Assistant Professor of Physiology for five years from September 1, 1902. November 24, 1902.

Charles Harrington, Assistant Professor of Hygiene for five years from September 1, 1903. June 1, 1903.

John Hildreth McCollom, Assistant Professor of Contagious Diseases for five years from September 1, 1903. March 9, 1903.

Maurice Howe Richardson, Professor of Clinical Surgery from September 1, 1903. March 2, 1903.

[*For 1902–03.*]

George Samuel Amsden, Assistant in Physiology. December 29, 1902.

Sylvester Judd Beach, Assistant in Physiology. December 29, 1902.

John Nelson Coolidge, Assistant in Clinical Medicine for the second half-year. January 26, 1903.

Nathaniel Wales Faxon, Assistant in Physiology. December 29, 1902.

Samuel Steen Maxwell, Austin Teaching Fellow in Physiology. September 26, 1902.

Thomas Ordway, Assistant in Physiology. December 29, 1902.

Joseph Hersey Pratt, Assistant in the Theory and Practice of Physic. October 13, 1902.

Wilder Tileston, Assistant in Chemistry for the second half-year. January 12, 1903.

Joseph Deutsch Weis, Assistant in Bacteriology. October 27, 1902.

[*For 1903–04.*]

Seabury Wells Allen, Assistant in Anatomy. June 8, 1903.

Carl Lucas Alsberg, Assistant in Physiological Chemistry. June 8, 1903.

George Sherwin Clarke Badger, Assistant in the Theory and Practice of Physic. June 8, 1903.

Franklin Greene Balch, Assistant in Surgery. June 8, 1903.

Henry Harris Aubrey Beach, Lecturer on Surgery. June 8, 1903.

Nathaniel Leander Berry, Jr., Assistant in Bacteriology. June 8, 1903.

John Bapst Blake, Instructor in Surgery. June 8, 1903.

Elliott Gray Brackett, Assistant in Orthopedics. June 8, 1903.

John Lewis Bremer, Instructor in Histology and Embryology. June 8, 1903.

George Washington Wales Brewster, Assistant in Surgery. June 8, 1903.

William Allen Brooks, Assistant in Surgery. June 8, 1903.

Herbert Rutherford Brown, Austin Teaching Fellow in Comparative Pathology. June 23, 1903.

Edward Marshall Buckingham, Clinical Instructor in Pediatrics. June 8, 1903.

Charles Shorey Butler, Assistant in Anatomy. June 8, 1903.

Richard Clarke Cabot, Instructor in Clinical Medicine. June 8, 1903.

David Cheever, Assistant in Anatomy. June 8, 1903.

Henry Asbury Christian, Instructor in Pathology. June 8, 1903.

Edmund Wright Clap, Assistant in Ophthalmology. June 8, 1903.

Farrar Cobb, Assistant in Surgery. June 8, 1903.

Ernest Amory Codman, Assistant in Surgery. June 8, 1903.

John Matthew Connolly, Assistant in Chemistry. June 8, 1903.

Algernon Coolidge, Jr., Clinical Instructor in Laryngology. June 8, 1903.

John Nelson Coolidge, Assistant in Clinical Medicine. June 8, 1903.

Frederic Jay Cotton, Assistant in Surgery. June 8, 1903.

Edward Cowles, Clinical Instructor in Mental Diseases. June 8, 1903.

George Arthur Craigin, Assistant in Pediatrics. June 8, 1903.

Le Roi Goddard Crandon, Assistant in Surgery. June 8, 1903.

Eugene Anthony Crockett, Assistant in Otology. June 8, 1903.

Elbridge Gerry Cutler, Instructor in the Theory and Practice of Physic. June 8, 1903.

John Dane, Assistant in Orthopedics. June 8, 1903.

Lincoln Davis, Instructor in Anatomy. June 8, 1903.

Thomas Amory De Blois, Clinical Instructor in Laryngology. June 8, 1903.

Francis Parkman Denny, Assistant in Bacteriology. June 8, 1903.

James Crowley Donoghue, Assistant in Histology. June 8, 1903.

Samuel Holmes Durgin, Lecturer on Hygiene. June 8, 1903.

Edwin Welles Dwight, Instructor in Legal Medicine. June 8, 1903.

John Wheelock Elliot, Lecturer on Surgery. June 8, 1903.

Robert Leonard Emerson, Instructor in Physiological Chemistry. June 8, 1903.

William Robey Patten Emerson, Assistant in Histology. June 8, 1903.

Eugene Ellsworth Everett, Assistant in Bacteriology. June 8, 1903.

John Woodford Farlow, Clinical Instructor in Laryngology. June 8, 1903.

William Edward Faulkner, Assistant in Surgery. June 8, 1903.

Elisha Flagg, Assistant in Anatomy. June 8, 1903.

Leo Victor Friedman Assistant in Obstetrics. June 8, 1903.

Langdon Frothingham, Austin Teaching Fellow in Bacteriology. June 23, 1903.

George Washington Gay, Lecturer on Surgery. June 8, 1903.

Joel Ernest Goldthwait, Assistant in Orthopedics. June 8, 1903.

Charles Montraville Green, Secretary of the Faculty of Medicine. June 8, 1903.

Robert Battey Greenough, Assistant in Surgery. June 8, 1903.

Philip Hammond, Assistant in Otology. June 8, 1903.

Francis Bishop Harrington, Lecturer on Surgery. June 8, 1903.

Henry Hill Haskell, Assistant in Ophthalmology. June 8, 1903.

George Haven, Instructor in Gynaecology. June 8, 1903.

Henry Fox Hewes, Instructor in Clinical Chemistry. June 8, 1903.

Frank Albert Higgins, Instructor in Obstetrics. June 8, 1903.

Hibbert Winslow Hill, Instructor in Bacteriology. June 8, 1903.

Joshua Clapp Hubbard, Assistant in Surgery. June 8, 1903.

Edwin Everett Jack, Assistant in Ophthalmology. June 8, 1903.

Henry Jackson, Instructor in Clinical Medicine. June 8, 1903.

James Marsh Jackson, Assistant in Clinical Medicine. June 8, 1903.

Daniel Fiske Jones, Assistant in Surgery. June 8, 1903.

James Oscar Jordan, Assistant in Materia Medica. June 8, 1903.

Elliott Proctor Joslin, Assistant in the Theory and Practice of Physic. June 8, 1903.

Philip Coombs Knapp, Clinical Instructor in Diseases of the Nervous System. June 8, 1903.

Maynard Ladd, Assistant in Pediatrics. June 8, 1903.

Edward Binney Lane, Clinical Instructor in Mental Diseases. June 8, 1903.

Frederic Thomas Lewis, Instructor in Histology and Embryology. June 8, 1903.

Edwin Allen Locke, Assistant in Clinical Medicine. June 8, 1903.

Howard Augustus Lothrop, Instructor in Surgery. June 8, 1903.

Robert Williamson Lovett, Assistant in Orthopedics. June 8, 1903.

Fred Bates Lund, Assistant in Surgery. June 8, 1903.

George Burgess Magrath, Assistant in Pathology. June 8, 1903.

Henry Orlando Marcy, Jr., Assistant in Anatomy. June 8, 1903.

Samuel Steen Maxwell, Instructor in Physiology. June 8, 1903.

Samuel Jason Mixter, Lecturer on Surgery. June 8, 1903.

George Howard Monks, Lecturer on Surgery. June 8, 1903.

John Lovett Morse, Instructor in Pediatrics. June 8, 1903.

Harris Peyton Mosher, Assistant in Anatomy. June 8, 1903.

James Gregory Mumford, Instructor in Surgery. June 8, 1903.

John Cummings Munro, Lecturer on Surgery. June 8, 1903.

Fred Towsley Murphy, Assistant in Anatomy. June 8, 1903.

Franklin Spilman Newell, Assistant in Obstetrics and in Gynaecology. June 8, 1903.

Edward Hall Nichols, Instructor in Surgical Pathology. June 8, 1903.

Calvin Gates Page, Assistant in Bacteriology. June 8, 1903.

Henry Joseph Perry, Assistant in Bacteriology. June 8, 1903.

Charles Allen Porter, Instructor in Surgery. June 8, 1903.

Abner Post, Instructor in Syphilis. June 8, 1903.

Joseph Hersey Pratt, Assistant in the Theory and Practice of Physic. June 8, 1903.

William Herbert Prescott, Assistant in Clinical Medicine. June 8, 1903.

Alexander Quackenboss, Assistant in Ophthalmology. June 8, 1903.

Frank Linden Richardson, Austin Teaching Fellow in Surgery. June 23, 1903.

William Henry Robey, Jr., Assistant in Bacteriology. June 8, 1903.

David Daniel Scannell, Assistant in Anatomy. June 8, 1903.

Frederick Robertson Sims, Assistant in Pathology. June 8, 1903.

Charles Morton Smith, Assistant in Syphilis. June 8, 1903.

William Henry Smith, Assistant in Clinical Medicine. June 8, 1903.

Fred Maurice Spalding, Assistant in Ophthalmology. June 8, 1903.

Myles Standish, Instructor in Ophthalmology. June 8, 1903.

Arthur Kingsbury Stone, Assistant in the Theory and Practice of Physic. June 8, 1903.

Malcolm Storer, Assistant in Gynaecology. June 8, 1903.

Howard Townsend Swain, Assistant in Obstetrics. June 8, 1903.

Ewing Taylor, Austin Teaching Fellow in Histology and Embryology. June 23, 1903.

Edward Wyllys Taylor, Instructor in Neuropathology. June 8, 1903.

Paul Thorndike, Instructor in Genito-Urinary Surgery. June 8, 1903.

Ernest Edward Tyzzer, Assistant in Pathology. June 8, 1903.

Maurice Paul Octave Vejux-Tyrode, Instructor in Pharmacology. June 8, 1903.

Herman Frank Vickery, Instructor in Clinical Medicine. June 8, 1903.

Richard Goodwin Wadsworth, Assistant in Anatomy. June 8, 1903.

David Harold Walker, Assistant in Hygiene. June 8, 1903.

George Lincoln Walton, Clinical Instructor in Diseases of the Nervous System. June 8, 1903.

George Arthur Waterman, Assistant in Neurology. June 8, 1903.

Francis Sedgwick Watson, Lecturer on Genito-Urinary Surgery. June 8, 1903.

Charles James White, Instructor in Dermatology. June 8, 1903.

Franklin Warren White, Assistant in the Theory and Practice of Physic. June 8, 1903.

George Shattuck Whiteside, Assistant in Anatomy. June 8, 1903.

Charles Francis Withington, Instructor in Clinical Medicine. June 8, 1903.

James Homer Wright, Instructor in Pathology. June 8, 1903.

Ernest Boyen Young, Assistant in Gynaecology. June 8, 1903.

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE MEDICAL SCHOOL.

[*For 1902–03.*]

October 13, 1902.

Franklin Dexter.
Charles Montraville Green.
Charles Harrington.
Frank Burr Mallory.
William Lambert Richardson, *Dean*.
Frederick Cheever Shattuck.
John Collins Warren.
William Fiske Whitney.
Edward Stickney Wood.

[*For 1903–04.*]

June 23, 1903.

Walter Bradford Cannon.
Charles Montraville Green.
Charles Harrington.
Frank Burr Mallory.
William Lambert Richardson, *Dean*.
Frederick Cheever Shattuck.
John Collins Warren.
William Fiske Whitney.
Edward Stickney Wood.

DENTAL SCHOOL.

[*For 1902–03.*]

John Wesley Estabrooks, Instructor in Operative Dentistry for the remainder of the academic year. March 30, 1903.

Melville Forrest Rogers, Instructor in Operative Dentistry. January 12, 1903.

[*For 1903–04.*]

Lawrence Wills Baker, Assistant in Orthodontia. June 8, 1903.

Edwin Carter Blaisdell, Instructor in Operative Dentistry. June 8, 1903.

Frederick Bradley, Instructor in Operative Dentistry. June 8, 1903.

Asher Harriman St. Clair Chase, Assistant Demonstrator of Mechanical Dentistry. June 8, 1903.

Ernest Howard Chute, Instructor in Mechanical Dentistry. June 8, 1903.

Dwight Moses Clapp, Clinical Lecturer on Operative Dentistry. June 8, 1903.

Harold DeWitt Cross, Demonstrator of Mechanical Dentistry. June 8, 1903.

Horace Amos Davis, Instructor in Operative Dentistry. June 8, 1903.

Dwight Ward Dickinson, Assistant Demonstrator of Operative Dentistry. June 8, 1903.

John Dana Dickinson, Clinical Instructor in Mechanical Dentistry. June 8, 1903.

John Walker Dickinson, Instructor in Mechanical Dentistry. June 8, 1903.

Forrest Greenwood Eddy, Instructor in Operative Dentistry. June 8, 1903.

Arthur Warren Eldred, Instructor in Mechanical Dentistry. June 8, 1903.

Samuel Tuttle Elliott, Instructor in Operative Dentistry. June 8, 1903.

John Irving Esgate, Instructor in Operative Dentistry. June 8, 1903.

John Wesley Estabrooks, Instructor in Mechanical Dentistry. June 8, 1903.

Edwin Linwood Farrington, Instructor in Operative Dentistry. June 8, 1903.

James Austin Furfey, Instructor in Operative Dentistry. June 8, 1903.

Harry Linwood Grant, Instructor in Mechanical Dentistry. June 8, 1903.

Amos Irving Hadley, Instructor in Mechanical Dentistry. June 8, 1903.

Francis Herbert Harding, Instructor in Operative Dentistry. June 8, 1903.

Ernest Jewett Hart, Instructor in Extracting and Anaesthesia. June 8, 1903.

Thomas Bernard Hayden, Instructor in Mechanical Dentistry. June 8, 1903.

Ellis Proctor Holmes, Instructor in Operative Dentistry. June 8, 1903.

Elbridge Decosmos King, Instructor in Operative Dentistry. June 8, 1903.

Marquis D Littig, Instructor in Operative Dentistry. June 8, 1903.

Robert John McMeekin, Demonstrator of Operative Dentistry. June 8, 1903.

Charles Winthrop McPherson, Instructor in Operative Dentistry. June 8, 1903.

Elmer Joseph Marston, Instructor in Operative Dentistry. June 8, 1903.

George Howard Monks, Instructor in Surgical Pathology. June 8, 1903.

Leslie Herbert Naylor, Instructor in Operative Dentistry. June 8, 1903.

Harry Snow Parsons, Instructor in Mechanical Dentistry. June 8, 1903.

Joseph Totten Paul, Instructor in Operative Dentistry. June 8, 1903.

Charles Ernest Perkins, Instructor in Operative Dentistry. June 8, 1903.

Charles William Rodgers, Assistant in Dental Materia Medica. June 8, 1903.

Melville Forrest Rogers, Instructor in Operative Dentistry. June 8, 1903.

Harry Benjamin Shuman, Assistant in Oral Surgery. June 8, 1903.

Henry Carlton Smith, Assistant in Chemistry. June 8, 1903.

David Frederick Spinney, Instructor in Mechanical Dentistry. June 8, 1903.

William Daniel Squarebrigs, Instructor in Extracting and Anaesthesia. June 8, 1903.

Wilfred Harlow Starratt, Instructor in Operative Dentistry. June 8, 1903.

Arthur Henry Stoddard, Clinical Lecturer on Mechanical Dentistry. June 8, 1903.

Ezra Fletcher Taft, Instructor in Operative Dentistry. June 8, 1903.

Edward Wyllys Taylor, Instructor in Neurology. June 8, 1903.

Evan Parker Wentworth, Instructor in Operative Dentistry. June 8, 1903.

Julius George William Werner, Clinical Instructor in Operative Dentistry. June 8, 1903.

Robert Whitehill, Instructor in Operative Dentistry. June 8, 1903.

MEMBERS OF THE ADMINISTRATIVE BOARD OF THE DENTAL SCHOOL.

June 23, 1903.

Waldo Elias Boardman.
Charles Albert Brackett.
Edward Cornelius Briggs.
Dwight Moses Clapp.
William Parker Cooke.
Thomas Fillebrown.
William Barker Hills.
William Henry Potter.
Eugene Hanes Smith, *Dean*.

BUSSEY INSTITUTION.

[*For the Calendar Year 1903.*]

John George Jack, Lecturer at the Arnold Arboretum. April 13, 1903.

[*For 1903–04.*]

Frank Thompson Dillingham, Assistant in Chemistry. April 27, 1903.

John Hamilton Robinette, Assistant in Agriculture. April 27, 1903.

Charles Stephen Shaughnessy, Instructor in Mathematics and Surveying. April 27, 1903.

OBSERVATORY.

[*Without limit of time, or for more than one year.*]

John Augustine Dunne, Assistant at the Observatory from September 1, 1902. November 24, 1902.

Oliver Clinton Wendell, Assistant Professor of Astronomy for five years from September 1, 1903.

OTHER APPOINTMENTS.

[*Without limit of time, or for more than one year.*]

Alexander Agassiz, Chairman of the Committee on the University Museum from September 1, 1902. December 29, 1902.

Robert LeMoyne Barrett, Associate of the University Museum in Geography. December 1, 1902.

Herbert Haviland Field, Associate of the University Museum in Zoölogy. December 1, 1902.

Kuno Francke, Curator of the Germanic Museum. October 13, 1902.

Andrew Gray Weeks, Jr., Associate of the University Museum in Zoölogy. December 1, 1902.

Thomas Augustus Jaggar, Jr., Regent from September 1, 1903. September 29, 1903.

[*For 1903–04.*]

Lynn Staley Beals, Auditor of Randall Hall Association. June 23, 1903.

Francis Dohs, Instructor in Gymnastics. March 30, 1903.

PREACHERS TO THE UNIVERSITY.

May 26, 1903.

Lyman Abbott.
Francis Brown.
Henry van Dyke.
William Wallace Fenn.
Floyd Williams Tomkins.

COMMITTEE ON THE REGULATION OF ATHLETIC SPORTS.

[*For 1902–03.*]

October 13, 1902.

Faculty Members.

Ira Nelson Hollis.
Horatio Stevens White.

[*For 1903–04.*]

May 26, 1903.

Faculty Members:	*Graduate Members:*
Abram Piatt Andrew.	Norman Williams Bingham, Jr.
Archibald Cary Coolidge.	Edward Hall Nichols.
Horatio Stevens White.	Thomas Nelson Perkins.

TRUSTEES OF THE MUSEUM OF FINE ARTS.

NOVEMBER 24, 1902.
WILLIAM STURGIS BIGELOW. ARTHUR TRACY CABOT.
JOHN TEMPLEMAN COOLIDGE, Jr.

TRUSTEES OF HARVARD UNION.

OCTOBER 13, 1902.
ROBERT BACON. IRA NELSON HOLLIS.

SEPTEMBER 29, 1903.
JAMES JACKSON STORROW. WILLIAM ROSCOE THAYER.

ORDINARY DEGREES CONFERRED IN 1899–1903.

	1899.	1900.	1901.	1902.	1903.
Bachelors of Arts	443	404	457	422	511
Bachelors of Arts out of course	25	15	26	32	36
Bachelors of Science	46	59	75	76	101
Bachelors of Science out of course	11	6	4	7	4
Bachelors of Divinity	2	5	2	5	4
Bachelors of Divinity out of course	0	0	0	1	1
Bachelors of Laws	109	126	136	146	157
Bachelors of Laws out of course	8	8	9	16	6
Bachelors of Agricultural Science	0	0	2	5	6
Doctors of Medicine	108	130	116	130	109
Doctors of Medicine out of course	1	0	4	1	3
Doctors of Dental Medicine	36	33	29	32	27
Doctors of Dental Medicine out of course	1	0	0	0	0
Doctors of Veterinary Medicine	8	7	6	0	0
Doctors of Veterinary Medicine out of course	1	0	1	1	0
Masters of Arts	118	125	119	110	117
Masters of Arts out of course	6	9	6	10	7
Masters of Science	6	1	7	8	6
Masters of Science out of course	0	0	3	0	1
Doctors of Philosophy	23	35	29	28	28
Doctors of Science	1	1	0	3	1
Totals	953	964	1031	1033	1125

PUBLICATIONS OF THE MUSEUM OF COMPARATIVE ZOÖLOGY FOR THE ACADEMIC YEAR 1902–03.

Bulletin: —

Vol. XXXVIII. Geological Series, Vol. V.

No. 7. River Terraces in New England. By W. M. DAVIS. 68 pp. October, 1902.

No. 8. The Foraminifera and other Organisms in the Raised Reefs of Fiji. By R. L. SHERLOCK. 19 pp. March, 1903.

Vol. XXXIX.

No. 4. Illustrations of Odonata: Argia. By **HERMANN A. HAGEN.** With a List and Bibliography of the Species. By **PHILIP P. CALVERT.** 20 pp. 2 Plates. November, 1902.

No. 5. Crabs from the Maldive Islands. By **MARY J. RATHBUN.** 18 pp. 1 Plate. December, 1902.

No. 6. Birds and Mammals from Honduras. By **OUTRAM BANGS.** 21 pp. July, 1903.

No. 7. Carboniferous Fishes from the Central Western States. By **C. R. EASTMAN.** 66 pp. 5 Plates. July, 1903.

Vol. XL.

No. 3. Contributions from the Zoölogical Laboratory. No. 135. The Development of the Definitive Feather. By **R. M. STRONG.** 41 pp. 9 Plates. October, 1902.

No. 4. Contributions from the Zoölogical Laboratory. No. 137. The Heredity of Sex. By **W. E. CASTLE.** 32 pp. January, 1903.

No. 5. Contributions from the Zoölogical Laboratory. No. 138. The Optic Chiasma in Teleosts and its bearing on the Asymmetry of the Heterosanata (Flatfishes). By **G. H. PARKER.** 24 pp. 1 Plate. January, 1903.

No. 6. Contributions from the Zoölogical Laboratory. No. 141. Polydactylism in Man and the Domestic Animals, with especial Reference to Digital Variations in Swine. By **C. W. PRENTISS.** 72 pp. 22 Plates. April, 1903.

Vol. XLI.

No. 1. Birds of the Cape Region of Lower California. By **WILLIAM BREWSTER.** 242 pp. 1 Map. September, 1902.

Vol. XLII. Geological Series, Vol. VI.

No. 1. An Excursion to the Plateau Province of Utah and Arizona. By **W. M. DAVIS.** 50 pp. 7 Plates. June, 1903.

No. 2. The Chemical Composition of Limestones from upraised Coral Islands, with Notes on their Microscopical Structures. By **ERNEST W. SKEATS.** 76 pp. June, 1903.

Memoirs: —

Vol. XXVI.

No. 4. Reports on the Scientific Results of the Expedition to the Tropical Pacific, 1899–1900. V. Sharks' Teeth and Cetacean Bones. By **C. R. EASTMAN.** 14 pp. 3 Plates. June, 1903.

Vol. XXVIII.

Reports on the Scientific Results of the Expedition to the Tropical Pacific, 1899–1900. IV. The Coral Reefs of the Tropical Pacific. By **ALEXANDER AGASSIZ.** 33,410 pp. 238 Plates. February, 1903.

Report: —

1901–02. 32 pp. 2 Plates. December, 1903.

SUNDRY PAYMENTS MADE FROM UNRESTRICTED INCOME, AND FROM THE UNRESTRICTED FUNDS CALLED STOCK ACCOUNT AND INSURANCE AND GUARANTY FUND, BETWEEN 1826–27 AND 1902–03 INCLUSIVE.

All these payments were made after August 31, 1862, except $10,667.20 paid on account of Dane Hall in 1834–35, and $25,419.17 paid on account of Observatory in 1852–53.

Year.			
	Dane Hall:		
1834–35	Original cost,	$10,667.20	
1891–92	Alterations,	4,173.22	
1899–1900	" (for Harvard Coöperative Society),	2,444.08	$17,284.50
1852–53	Observatory, in excess of subscriptions,		25,419.17
1862–63	Appleton Chapel, " " "		1,406.60
	Rogers Building — Gymnasium:		
1862–63	Cost in excess of gift,	$1,534.21	
1882–83	Taken for College uses, scholarship established,	3,180.50	
1901–02	Alterations for Germanic Museum,	399.04	
1902–03	" " " "	1,565.00	6,678.75
	Boylston Hall:		
1862–63	Cost in excess of funds and gifts available,	$10,790.72	
1872–75	Alterations in excess of gifts,	11,810.00	
1891–92	" Lecture room and organic laboratory,	8,806.50	
1892–93	" Gallery,	449.97	
1895–96	" Basement laboratory,	7,027.09	
1898–99	"	970.14	
1901–02	" Southerly extension,	35.23	
1902–03	" " "	6,205.29	
1902–03	Furnishing " "	1,417.61	47,512.55
1869–70	Harvard and Massachusetts Halls remodelled,		19,966.87
1871–72	Holworthy Hall, roof raised (estimated),		3,000.00
1871–73	Moving Dane Hall and the Steward's (Bursar's) office, wing of Wadsworth House, on account of the building of Matthews Hall,		9,210.42
1874–75	Former Hospital (Jarvis Street),		3,502.85
1874–75	Stone walks in the College Yard,	$4,847.33	
1880–81	Brick and stone walks in the College Yard,	2,072.64	6,919.97
1875–77	Grading Jarvis Field, Holmes Field, and the Delta,	$6,174.94	
1889–90	Grading field for athletics in rear of Divinity Hall,	964.93	7,139.87
	Amount carried forward,		$148,041.55

	Amount brought forward,		$148,041.55
	Gore Hall:		
1875–78	Extension (excluding interest during construction, $6,098.71),	$89,012.68	
1894–95	Alterations, stacks and reading room,	22,239.55	
1895–96	" and ventilation,	1,208.05	112,460.28
1876–77	Delta fence,		3,990.00
1879–80	Chemical engine, given to City of Cambridge,		3,000.00
	Steam plant, ventilation, plumbing, etc., etc., installations:		
1880–81	University steam plant, plumbing, etc. (est.),	$10,000.00	
1892–93	Plumbing (Hollis, Stoughton, Holworthy),	1,451.19	
1894–95	Heating entries (dormitories),	678.39	
1897–98	Shower baths, steam plant improvements,	955.44	
1898–99	" " " " "	15,894.66	
1898–99	Ventilation,	16,174.58	
1899–1900	"	17,285.21	
1899–1900	Steam plant, addition (Sever),	1,651.67	64,091.14
1888–89	Phillips Brooks House, tunnel and steam connections,		971.20
	Expositions:		
1892–94	Chicago, World's Fair,	$11,856.04	
1894–95	Atlanta,	1,228.85	
1899–1902	Paris,	1,008.14	
1900–03	Buffalo,	175.39	14,268.42
1890–91	Cases for Semitic collections,		3,000.00
1893–94	Lady Mowlson Scholarship re-established,		5,000.00
1894–98	Repayments to Museum of Comp. Zoölogy,		29,750.00
1895–96	Hemenway Gymnasium, asphalt court,		4,882.36
	Club House (Jarvis Street):		
1889–90	Moving to make room for Carey Building,	$853.02	
1895–96	Alterations,	1,556.76	2,409.78
	University Hall:		
1895–96	Alterations,	$859.95	
1896–97	"	5,981.15	6,841.10
	Bursar's Office — Dane Hall:		
1898–99	Installation,	$748.54	
1899–1900	"	1,157.69	1,906.23
1900–01	Carpenter shops, alterations and additions,		1,404.78
1900–01	Henry C. Warren House, moving and alterations,		3,368.78
1901–02	Moving Nichols House, Kirkland Street,		1,570.50
1901–03	University Museum, extension, furnishing,		5,882.98
1902–03	Telephone exchange, installation,		1,957.49
1902–03	Moving Brimmer window,		1,000.00
	Department debts and annual deficits:		
1895–96	Lawrence Scientific School, debt,	$10,473.15	
1895–1903	School of Veterinary Medicine, deficits,	28,753.66	
1901–03	" " " debt,	20,406.01	59,632.82
	Amount carried forward,		$475,429.41

	Amount brought forward, ...		$475,429.41
1894–95	Conant Hall, construction, from the income thereof, ...		5,095.58
1894–95	Perkins Hall, construction, from the income thereof, ...		4,805.43
1895–1903	Surveys and plans, ...		4,131.50
1868–1903	Sewer assessments, ...		5,415.87
1868–1903	Sidewalk "		3,367.00
	Foxcroft House:		
1899–1900	Changing rear extension (to make students' rooms), ...	$1,235.84	
1901–02	Moving to make room for New Lect. Hall,	2,365.83	3,601.67
1900–01	Fogg Museum, payment made to restore the William Hayes Fogg Fund to $50,000, .		2,829.91
			$504,676.37

SURPLUSES AND DEFICITS, 1826–27 TO 1902–03.

Items marked * were carried to the Insurance and Guaranty Fund. All other items were carried to the Stock Account.

The following surpluses, which are entered in the table, were appropriated in the years of their occurrence: —

For alterations in Boylston Hall: —		
1872–73	$1,424.51	
1873–74	4,686.31	
1874–75	4,199.18	$10,310.00
For alterations in Gore Hall, 1894–95		22,239.55
For payment, in part, of the debt of the School of Veterinary Medicine, 1901–02		10,291.11

The deficits for 1875–76 and 1877–78 and the surplus for 1876–77 are given as they occurred, instead of being dealt with through a suspense account, as shown in the Treasurer's Annual Statements.

The income of the Stock Account for each of the years from 1887–88 to 1890–91, inclusive, 1893–94 and 1894–1895, was added to the capital, but was really surplus income, in so far as it exceeded any deficit for its year, which was mentioned in the Treasurer's Annual Statement. In this table, this income is added to the stated surplus of its year, or the balance thereof, after deducting the stated deficit, is entered as a surplus.

Year.	Surplus.	Deficit.
1826–27 . . .		$4,037.22
28 . . .		352.93
29 . . .	$9,710.74	
30 . . .		147.14
31 . . .		4,438.39
32 . . .		92.94
33 . . .	2,484.83	
34 . . .		877.70
35 . . .	11,786.38	
36 . . .	7,277.81	
37 . . .	2,669.77	
38 . . .	2,648.34	
39 . . .	3,365.64	
40 . . .		774.93
41 . . .	4,975.76	
42 . . .		5,222.06
43 . . .	4,418.01	
44 . . .	7,115.53	
45 . . .	4,587.45	
46 . . .	345.77	
47 . . .		389.38
48 . . .	234.16	
49 . . .	7,284.95	
50 . . .	805.68	
51 . . .	2,872.23	
52 . . .	6,827.58	
53 . . .	3,852.49	
54 . . .	1,202.18	
55 . . .	1,438.03	
56 . . .	1,677.80	
57* . .	3,204.90	
58* . .		1,142.71
59* . .		2,732.87
60* . .		3,495.29
61* . .		6,650.42
62* . .		4,540.43
63* . .		1,144.87
64* . .	328.05	
65* . .	12,688.22	
66* . .	13,468.62	
Forward,	$117,270.92	$36,039.28
Bro't forward,	$117,270.92	$36,039.28
1866–67 . . .		2,818.23
68 . . .		7,080.98
69 . . .	1,877.12	
70* .		10,000.00
70 .		1,612.81
71 . . .		4,614.33
72 . . .		11,444.30
73 . . .	1,424.51	
74 . . .	4,686.31	
75 . . .	4,199.18	
76 . . .		649.21
77 . . .	714.49	
78 . . .		6,439.93
79 . . .	708.99	
80 . . .		9,557.27
81 . . .		34,469.19
82 . . .		14,738 64
83 . . .	2,713.27	
84 . . .		271.17
85 . . .	1,953.43	
86 . . .	2,999.46	
87 . . .		7,206.68
88 . . .	7,387.60	
89 . . .	4,819.25	
90 . . .	10,380.13	
91 . . .	4,833.83	
92 . . .		6,432.88
93 . . .		25,181.26
94 . . .	3,723.08	
95 . . .	26,648.95	
96 . . .		9,426.05
97 . . .		18,370.23
98 . . .		3,846.32
99 . . .		45,348.95
1900 .		24,971.16
1900* .		11,698.35
01* . .	2,347.91	
02* . .	10,291.11	
03* . .		40,403.07
	$208,979.54	$332,620.29

HARVARD DINING ASSOCIATION.

AVERAGE COST PER MAN PER WEEK.

	1903.	1902.	
	Sept. and Oct.	Sept. and Oct.	Entire Year.
Total provisions (except meat, fish, and eggs)	$1.29	$1.13	
Service	.97*	.83	$0.84
All other expenses (except meat, fish, and eggs)	.49	.79½	.76
Total general board (except meat, fish, and eggs)	2.75*	2.75½	
Meat, fish, and eggs used	1.15	1.45	
Total regular board	3.90	4.20½	4.24½
Extras ordered	.44	.34	.45
Total average board	$4.34	$4.54½	$4.69½
* Special attention should be called to the fact that this includes increase of about ten cents per man per week to increase waiters' salaries in place of tips; includes pay of increased number of extra waiters; and includes increase in consumption of vegetables and cereals over last year's consumption.		Exclusive of tips.	

Under either the old or the new system, the share of general, nearly fixed expenses to be borne by each member is increased about thirteen (13) cents per man per week by each decrease of one hundred in membership.

MEMORIAL HALL.

Monday, November 16, 1903.

Coupons to be used only for meat, fish, and eggs, as listed on Menu Cards.

As the waiters' salaries have been raised to fair sums, and as taking tips is cause for immediate discharge, each member is earnestly asked not to offer tips.

BREAKFAST.

	Cents.		Cents.
Grape Fruit, half	7	Buckwheat Cakes and Maple Syrup	5
Pears (2)	5	Scrambled Eggs	6
Bananas (2)	5	Liver and Bacon	7
Apples.		Bacon	4
Oatmeal. Rolled Wheat. Force.		Baked Potatoes.	
Cream	3	Rolls. Muffins.	
Comb Honey	5	Tea. Coffee. Cocoa.	
Baked Apples	5	Hot Milk.	

LUNCH.

	Cents.
Consommé Celery.	
Veal Cutlets, Breaded, Tomato Sauce	11
Cold Corned Beef	6
Baked Potatoes. Samp.	
Hulled Corn	5
Comb Honey	5
Orange Marmalade	5
Preserved Damson.	
Cookies.	
Tea. Coffee. Cocoa.	
Hot Milk.	

DINNER.

	Cents.
Mulligatawny.	
Lettuce	5
Celery	7
Broiled Sirloin Steak	11
Roast Fresh Pork, Apple Sauce	10
French Fried and Mashed Potatoes.	
Green Peas.	
Boiled Rice.	
Chocolate Ice-cream. Cake.	
Cheese. Crackers.	
Tea. Coffee. Cocoa.	
Bluepoints on half-shell, dozen	20
Bluepoints on half-shell, half	10
Fried Smelts, Tartar Sauce	25
Broiled Spring Chicken, half	30
Fried Frogs' Legs	25
Bananas (2)	5
Pears, each	3
“ two	5
Grapes, per order	5
Frozen Pudding	5
“ “	10
Camembert Cheese, Toasted Crackers, Black Coffee	15

SUMMER SCHOOL OF ARTS AND SCIENCES.

SUMMARY OF REGISTRATION.

BY SEX.

Sex.	1900.		1901.		1902.		1903.	
	Number of persons.	Per cent. of each sex.	Number of persons.	Per cent. of each sex.	Number of persons.	Per cent. of each sex.	Number of persons.	Per cent. of each sex.
Men	274	35	248	32	275	37	473	40
Women	510	65	519	68	462	63	713	60
Total	784		767		737		1,186	

BY DEPARTMENTS OF INSTRUCTION.

Department.	1900.	1901.	1902.	1903.
Sanskrit	. .	. .	. .	2
Greek	15	12	8	16
Latin	18	30	16	48
English	188	184	165	275
Speaking and Reading	6	14	11	31
German	24	15	19	40
French	26	11	13	23
Spanish	11	9	6	10
Russian	. .	. .	. .	2
History	44	61	38	81
Civil Government	12	11	4	4
Economics	. .	. .	. .	10
Psychology	32	31	15	31
Education	66	51	70	123
Theory of Design	66	70	80	88
Drawing	. .	. .	5	12
Music	. .	13	5	13
Mathematics	43	53	70	121
Teaching of Mathematics	7	. .	10	*
Astronomy	2	3	. .	. .
Surveying	4	4	7	24
Shopwork	2	10	6	12
Physics	32	36	44	55
Chemistry	35	16	15	36
Botany	25	27	30	31
Geology	32	12	16	36
Geography	42	21	33	40
Mineralogy	5	. .	. .	. .
Physical Education	126	149	204	253
TOTAL REGISTRATIONS	863	843	890	1,419
DUPLICATES	79	76	153	233
TOTAL PERSONS	784	767	737	1,186

* Included in Education above.

TABLE I.

ILLNESS REPORT. PERCENTAGE OF SIGN-OFFS.

	College.					Scientific School.					Professional.		
	1 yr.	2 yr.	3 yr.	4 yr.	Sp.	1 yr.	2 yr.	3 yr.	4 yr.	Sp.	Law.	Grad.	Div.
1900–01	175	210	197	150	133	172	106	75	69	74	27	46	50
1901–02	153	137	132	98	103	123	136	125	74	75	20	28	25
1902–03	184	194	171	151	74	93	106	116	69	62	13	17	22

TABLE II.

ILLNESS REPORT, 1902–03.

Diseases.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Appendicitis	1	6	3	5	3	5	7	5	1	..	36
Bronchitis	1	12	18	18	17	17	20	7	3	1	114
Chicken-pox	..	1	..	2	..	3	1	..	..	..	7
Colds — unclassified	7	109	142	103	79	147	148	98	52	..	885
Constipation	..	2	3	1	1	1	6	3	1	..	18
Coryza	..	8	8	18	4	16	13	9	6	..	82
Dentistry	..	5	14	9	8	9	12	13	10	..	80
Diarrhoea	1	52	57	20	14	21	30	18	27	..	240
Diphtheria	..	1	1	1	..	1	2	1	..	..	7
Ear, of the	2	7	6	5	4	10	3	2	6	..	45
Eye, of the	1	34	34	19	9	31	45	29	26	..	228
General Debility	..	7	7	7	8	7	12	12	7	3	70
Headache	..	19	29	13	9	10	23	16	18	..	137
Indigestion	7	55	73	58	35	49	59	50	45	2	433
Insomnia	1	..	5	2	..	1	8	..	1	1	19
Jaundice	1	1	5	2	2	2	2	3	1	..	19
La Grippe	..	8	5	11	55	198	105	28	12	..	422
Laryngitis	1	1	5	3	2	2	2	4	3	..	23
Malaria	..	8	6	4	1	2	3	8	3	1	36
Measles	..	..	..	..	1	..	2	4	..	..	7
Miscellaneous	4	56	69	39	54	56	56	31	25	..	390
Mumps	..	..	..	..	4	2	3	..	2	1	12
Neuralgia	..	8	4	9	5	8	4	12	6	..	56
Overwork	2	4	10	5	4	8	12	3	7	2	57
Pertussis	..	..	..	1	1	..	..	..	..	..	2
Pharyngitis	..	14	20	23	22	26	33	19	11	..	168
Pneumonia	..	..	..	1	1	3	1	1	..	..	7
Rheumatism	1	4	5	6	10	3	3	6	2	1	41
Scarlet Fever	..	1	2	..	..	..	2	2	..	..	7
Skin, of the	4	8	9	8	6	2	11	4	9	..	61
Surgical	9	91	69	29	26	27	57	32	36	1	377
Tonsillitis	1	14	15	28	23	30	52	19	16	3	201
Tuberculosis	..	2	1	1	..	1	..	..	..	..	5
Typhoid	..	5	1	..	..	..	..	..	..	..	6
Totals	44	543	626	451	408	698	737	439	336	16	4298

Visits	778
Office consultations	1887
Total number of consultations	2665
Calls on students not found in (not included in above)	342
Other cases not seen by the Medical Visitor	2031

TABLE III.

ILLNESS REPORT AS RELATED TO THE DIFFERENT SCHOOLS.

Diseases.	College.					Scientific.					Law.	Graduate.	Divinity.	Medical.	Totals.
	1	2	3	4	Sp.	1	2	3	4	Sp.					
Appendicitis . .	10	7	9	4	..	1	1	1	..	1	1	1	..	..	36
Bronchitis . . .	28	29	20	18	1	2	3	2	2	2	3	3	1	..	114
Chicken-pox . .	1	2	1	..	..	1	..	..	..	..	2	..	..	..	7
Colds, unclassified	234	233	149	121	13	35	40	23	19	14	1	..	2	1	885
Constipation . .	7	6	3	..	..	..	..	1	..	1	..	..	..	..	18
Coryza	22	20	17	11	2	5	1	4	..	..	..	..	..	..	82
Dentistry	27	20	16	8	1	1	4	1	2	..	..	..	..	..	80
Diarrhoea . . .	67	69	46	29	3	9	11	4	..	2	..	..	..	..	240
Diphtheria . . .	4	2	..	1	..	..	..	..	..	..	..	..	..	..	7
Ear, of the . . .	15	8	9	3	..	1	..	1	2	2	3	1	..	..	45
Eye, of the . . .	58	83	31	24	3	4	9	6	3	5	1	1	..	..	228
General Debility .	11	12	12	12	4	3	6	2	2	3	2	1	..	..	70
Headache	34	42	14	12	8	2	9	5	2	6	1	1	1	..	137
Indigestion . . .	126	121	65	51	9	14	15	8	3	3	13	4	1	..	433
Insomnia	4	5	4	3	..	1	1	..	..	..	1	..	..	..	19
Jaundice	4	..	8	5	..	1	4	2	..	..	..	..	..	..	19
La Grippe . . .	111	87	66	65	7	14	17	9	9	12	13	8	2	2	422
Laryngitis . . .	7	9	2	..	..	1	2	..	1	..	..	1	..	..	23
Malaria	9	7	6	6	2	..	2	..	2	..	..	2	..	..	36
Measles	4	..	1	..	1	..	..	..	..	..	1	..	..	..	7
Miscellaneous . .	93	107	57	66	16	7	13	6	3	4	11	7	..	..	390
Mumps	1	..	..	3	..	..	5	..	..	..	1	1	..	1	12
Neuralgia . . .	18	16	7	7	2	..	1	..	..	3	1	1	..	..	56
Overwork . . .	9	15	7	13	2	1	..	..	1	..	2	5	..	2	57
Pertussis	..	..	..	..	..	..	..	..	..	2	..	..	..	..	2
Pharyngitis . . .	50	46	26	17	2	10	2	6	1	5	..	3	..	..	168
Pneumonia . . .	1	..	2	..	..	..	1	..	..	..	1	2	..	..	7
Rheumatism . .	11	8	10	2	1	1	2	1	1	..	2	2	..	..	41
Scarlet Fever . .	3	..	2	..	2	..	..	..	..	..	..	..	..	..	7
Skin, of the . . .	14	10	12	6	1	3	1	1	4	..	8	1	..	..	61
Surgical	100	88	74	59	7	7	6	7	6	6	10	6	..	1	377
Tonsillitis . . .	32	65	48	26	3	3	4	6	2	3	5	3	1	..	201
Tuberculosis . .	2	..	1	1	..	..	..	..	..	..	..	1	..	..	5
Typhoid	..	3	1	2	..	..	..	..	..	..	..	..	..	..	6
Totals	1117	1120	721	575	90	127	160	96	65	74	83	55	8	7	4298
No. of Students . .	608	578	420	381	122	136	151	83	94	120	640	301	37		
% of "Sign-offs"	184	194	171	151	74	93	106	116	69	62	13	17	22		

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SIGILLVM ACADEMIAE HARVARDIANAE IN NOV. ANG.
VE RI TAS
CHRISTO ET ECCLESIAE

1903

TREASURER'S STATEMENT.

To the Board of Overseers of Harvard College: —

The Treasurer of the College submits the Annual Statement of the financial affairs of the University, for the year ending July 31, 1903, in the usual form.

The Funds separately invested, with the income thereof, are as follows: —

UNIVERSITY.	Principal, July 31, 1903.	Income.
George B. Dorr,		
University Houses and Lands,	$115,966.56	$5,044.83
George Draper,		
University Houses and Lands,	48,458.50	679.43
John Cowdin,		
Real Estate, Haymarket Square, Boston,	22,000.00	1,699.82
John C. Gray,		
University Houses and Lands,	25,000.00	1,087.56
Walter Hastings,		
Real Estate, Sacramento St., Cambridge,	20,000.00	1,123.48
Insurance and Guaranty,		
University Houses and Lands,	87,885.23	5,754.86
Real Estate, Lucas St., Boston,	4,000.00	
Joseph Lee,		
University Houses and Lands,	10,000.00	435.02
Francis E. Parker,		
University Houses and Lands,	113,817.44	4,951.34
Mary R. Searle Fund,		
10 shares American Express Co. (sold during year),		80.00
Henry Villard (part),		
University Houses and Lands,	18,209.31	
William F. Weld,		
University Houses and Lands,	100,000.00	4,350.24
COLLEGE.		
T. Jefferson Coolidge, for Research in Physics,		
625 shares Massachusetts Electric Companies, pref.,	57,500.00	2,500.00
Eaton Professorship of the Science of Government,		
Mortgages on real estate in New York City,	84,000.00	700.00
Amounts carried forward,	$706,837.04	$28,406.58

Amounts brought forward, ...	$706,837.04	$28,406.58
Charles Eliot Norton Fellowship,		
$15,000 Northern Pacific–Great Northern Joint 4's (C. B. & Q. collateral) of 1921, ...	14,100.00	600.00
George Foster Peabody Scholarship,		
$6,000 Mexican Coal & Coke Co. 1st M., S. F. 5's of 1926, ...	4,800.00	150.00
Pennoyer Scholarships (part),		
Pennoyer Annuity in England (sold during year),		21.22
Jonathan Phillips's Gift,		
$10,000 City of Boston 3½'s of 1920, ...	10,000.00	350.00
Professorship of Hygiene (part),		
Policy of Mass. Hospital Life Insurance Co., . .	5,000.00	200.00
$16,000 Northern Pacific-Great Northern Joint 4's (C. B. & Q. collateral) of 1921, ...	15,681.85	640.00
Scholarship of the **Class of 1883,**		
$5,000 Brookline Gas Light Co. Gen'l M. 5's of 1913,	5,000.00	250.00
Dunlap Smith Scholarship,		
$5,000 Metropolitan West Side Elevated R. R. Extension M. 4's of 1938, ...	4,700.00	
Stoughton Scholarship (part),		
Real Estate in Dorchester, ...	1,294.30	
Wales Professorship of Sanskrit,		
Real Estate, Cornhill, Boston, ...	40,000.00	257.45
Samuel Ward's Gift,		
Ward's (Bumkin) Island, Boston Harbor, . . .	1.00	
David Ames Wells (part),		
$1,000 The Electric Corporation 7's of 1992 (sold during year), ...		35.00
Real Estate in Brooklyn, New York, ...	2,500.00	
11 shares Walter A. Wood M. & R. Machine Co., .	550.00	
Mary L. Whitney Scholarship,		
$1,300 City of Laramie 10–30 6's (sold during year),		39.00
Executor of **C. L. B. Whitney's** will, interest on a loan, which has not been transferred, . . .		27.00
LIBRARY.		
Ichabod Tucker (part),		
Policy of Mass. Hospital Life Insurance Co., . . .	5,000.00	200.00
LAW SCHOOL.		
James Barr Ames Prize (part),		
Personal Note, ...	2,500.00	108.00
MEDICAL SCHOOL.		
Calvin and Lucy Ellis (part),		
40,000 Northern Pacific–Great Northern Joint 4's (C. B. & Q. collateral) of 1921, ...	26,585.00	1,600.00
Real Estate in Boston, ...	22,500.00	362.29
Real Estate in Eden, Bar Harbor, Maine, ...	10,000.00	
Amounts carried forward, ...	$877,049.19	$33,246.54

Amounts brought forward, ...	$877,049.19	$33,246.54
George C. Shattuck (part),		
$25,000 Kansas City, Fort Scott & Memphis R. R. Cons. M. 6's of 1928 ($203.70 deducted from income for sinking premium), ...	30,092.60	1,296.30

OBSERVATORY.

Advancement of Astronomical Science (1902) (part),		
15 shares Calumet & Hecla Mining Co., ...	9,000.00	375.00
$3,000 Mortgage Note, ...	3,000.00	180.00
5,000 Northern Pacific–Great Northern Joint 4's (C. B. & Q. collateral) of 1921, ...	4,800.00	200.00

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

Peabody Building (part),	$54,000 Kansas & Missouri R. R. 1st M. 5's of 1922,	11,512.72	622.32
Peabody Collection (part),		19,218.64	1,038.84
Peabody Professor (part),		19,218.64	1,038.84
Thaw (part) ($8.48 deducted from income for sinking premium),			
$20,000 Girard Point Storage Co. 1st M. 3½'s of 1940,		20,313.58	691.52

SPECIAL FUNDS.

Bussey Trust,		
Real Estate, ...	392,710.18	15,796.42
Robert Troup Paine (accumulating) ($174.77 deducted from income for sinking premiums),		
$38,000 Massachusetts 3½'s of 1913, ...	39,519.88	1,185.25
5,000 " " 1916, ...	5,271.10	154.15
3,000 " " 1938, ...	3,316.25	95.83
Fund of the **Class of 1834,**		
Policy of Mass. Hospital Life Insurance Co., . . .	1,000.00	40.00
Fund of the **Class of 1844,**		
Policy of Mass. Hospital Life Insurance Co., . . .	6,500.00	260.00
Fund of the **Class of 1853,**		
Policy of Mass. Hospital Life Insurance Co., . . .	3,725.00	149.00
Charles L. Hancock Bequest (part),		
Real Estate in Chelsea, ...	410.00	
Calvin and **Lucy Ellis** Aid (part),		
Real Estate in Boston, ...	22,500.00	362.28
Price Greenleaf. ($915.53 deducted from income for sinking premiums.) The total amount of this Fund is $788,865.31, which is invested as follows: —		
$12,200 Rutland R. R. 6's of 1902 (paid during year),		284.68
3,000 Chicago, Burl. & Quincy R. R. 4's of 1922,	2,880.00	120.00
290 shares Northern R. R. (N. H.), ...	29,290.00	1,740.00
317 " Boston & Maine R. R., ...	48,724.00	2,219.00
Amounts carried forward, ...	$1,550,051.78	$61,095.97

	Amounts brought forward,	$1,550,051.78	$61,095.97
Price Greenleaf (*continued*).			
360 shares	Boston & Lowell R. R.,	46,800.00	2,880.00
237 "	Fitchburg R. R., preferred,	22,306.27	1,185.00
355 "	Old Colony "	63,190.00	2,485.00
23 "	N. Y. Central & Hudson River R. R.,	2,635.00	115.00
52 "	West End Street Railway, preferred,	4,305.56	208.00
34 "	Central Vermont R'y,	428.72	
707 "	Pennsylvania R. R.,	51,856.04	1,800.00
15 "	Boston Real Estate Trust,	20,703.75	675.00
100 "	Paddock Building Trust,	10,000.00	150.00
$70,000	American Bell Telephone Co. 4's of 1908,	70,644.75	2,671.05
70,000	Broadway Realty Co. Purchase money 1st M. 5's of 1926,	74,328.90	3,315.78
24,000	Burl. & Mo. R. R. R. in Neb. non ex. 6's of 1918,	24,616.69	1,088.86
43,500	Central Vermont R'y 1st M. 4's of 1920,	37,845.00	1,740.00
50,000	Chic. Junc. R'ys & Union Stock Yards 5's of 1915,	47,000.00	2,500.00
8,000	Kansas City, Fort Scott & Memphis cons. M. 6's of 1928,	9,784.32	149.75
50,000	Metropolitan Tel. & Tel. Co. 1st M. 5's of 1918,	49,750.00	2,500.00
25,000	New England Tel. & Tel. Co. 6's of 1906,	25,222.65	1,425.78
34,000	New York Central & Hudson River R. R. (Michigan Central Collateral) 3½'s of 1998,	28,412.10	1,190.00
32,000	Northern Pacific–Great Northern Joint 4's (C. B. & Q. collateral) of 1921,	19,993.55	1,280.00
7,500	Pennsylvania R. R. conv. 3½'s of 1912 (converted during year),		196.87
50,000	Union Pacific R.R. 1st M. & L.G. 4's of 1947,	44,625.00	2,000.00
50,000	Note of Massachusetts Cotton Mills,	50,000.00	2,218.75
Cash in City Trust Co.,		3,523.01	43.01
	Totals,	$2,258,023.09	$92,913.82

The other Funds are invested as a whole. The general investments are stated in detail on pages 42, 43, 44, and 45 of this report. The usual summary of them, and of their income, is as follows: —

Investments.	Principal, Aug. 1, 1902.	Principal, July 31, 1903.	Income.
Notes, Mortgages, &c.,	$728,000.00	$1,659,000.00	$55,348.42
United States Bonds,	462,249.39		7,742.00
Railroad Bonds,	4,445,544.36	5,270,059.35	209,061.92
Sundry Bonds,	1,753,980.52	1,623,406.48	74,593.71
Railroad Stocks,	377,899.91	617,550.17	18,376.00
Manufacturing and Telephone Stocks,	94,429.54	194,344.64	9,138.67
Real Estate Trust Stocks,	400,129.72	407,629.72	11,283.50
Amounts carried forward,	$8,262,233.44	$9,771,990.36	$385,544.22

Investments.	Principal, Aug. 1, 1902.	Principal, July 31, 1903.	Interest.
Amounts brought forward,	$8,262,233.44	$9,771,990.36	$385,544.22
Real Estate,	2,751,541.92	2,796,354.66	145,148.70
Advances to **Bussey** Trust,	29,785.51	59,068.11	1,293.31
" " **Cowdin** Real Estate,		2,152.94	
" " **Calvin & Lucy Ellis** Real Estate,	63.37		3.17
" " Medical School Undertaking,	472,583.60	485,763.24	18,214.31
" " Observatory,	2,921.85	3,362.84	146.09
" " Sch. of Veterinary Med.,	14,114.90		705.75
" " **Peabody** Museum of Am. Archaeology and Ethnology,	2,278.60	3,123.51	113.93
" " Botanic Department,	5,307.35	6,897.98	265.37
" " Dining Hall Association,	46,224.69	44,339.16	2,087.12
" " **Randall** Hall "	34,302.27	33,702.27	1,715.11
" " Classical Publication Fund of the Class of 1856,	963.91	615.72	48.20
" " Sundry Accounts,	129.15	1,391.26	
Baring Brothers & Company,	2,893.16		396.65
Term Bills due in October,	238,881.23	241,773.03	
" " overdue,	7,765.25	10,147.50	
Cash in Adams Trust Co.,		47,260.22	1,583.22
" City Trust Co.,		34.43	
" National Union Bank,	10,902.73	62,090.35	1,951.88
" Old Boston National Bank,	96,114.57	13,922.86	2,693.38
" hands of Bursar,	16,975.62	21,508.17	
Totals of general investments,	$11,995,983.12	$13,605,498.61	$561,910.41
Totals of special investments,	2,118,558.73	2,258,023.09	92,913.82
Amounts,	$14,114,541.85	$15,863,521.70	$654,824.23

At the meeting of the Corporation, October 26, 1891, it was

"*Voted*, that the sum of $23,341.97 being the net gain from sales of bonds at a profit, heretofore credited to the account of Railroad Bond Premiums, be transferred as of July 31, 1891, to a new account to be called 'Gains and Losses for General Investments,' which account shall be credited with all gains and charged with all losses hereafter arising from sales of property belonging to the general investments. As this account belongs pro rata to all the Funds sharing in general investments it is not to be allowed interest when its balance is on the credit side nor to be charged with interest when its balance is on the debit side."

The gains arising from the sale during the year of United United States Bonds amounting to $85,662.61, and from the sale of certain railroad bonds, amounting to $10,039.50, were credited to "Gains and Losses for General Investments" in accordance with the terms of the vote of October 26, 1891. The balance to the credit of that account August 1, 1903, was $584,450.18.

The sums of $9,935.55 and $1,302.48 have been deducted from the income of all bonds bought at a premium and held respectively as general and special investments, and have been applied, as the fair yearly repayment from income, towards sinking the whole of these premiums at the maturity of the bonds.

The net income of the general investments has been divided at the rate of 4$\frac{68}{100}$ per cent. among the Funds to which they belong (excluding "Gains and Losses for General Investments"), after allowing special rates to certain temporary Funds and balances. The fraction, which was $214.41, has been placed as usual to the credit of the University account.

The rate of income compared with that for 1901–02 shows a decrease of twelve one-hundredths of one per cent.

The following table shows the income available for the departments dependent upon the College proper, and the expenditures in those departments; the income and the expenditure for the Lawrence Scientific School and the College being combined in the College account: —

Interest on Funds for			
University Salaries and Expenses,		$51,564.30	
Library Salaries and Expenses (not books),		28,810.90	
College Salaries and Expenses,		85,334.64	
Gymnasium, and repairs on College buildings,		none.	
Receipts from students,		595,369.75	
Sundry receipts, as follows: —			
Gifts for Salaries and Expenses,	$3,610.00		
Use of buildings (not University Houses and Lands),	4,120.00		
Sales of catalogues, pamphlets, &c.,	4,667.97		
Sundry receipts and repayments,	216.09	12,614.06	$773,693.65
Expended for			
University Salaries and Expenses,		$101,057.78	
Library Salaries and Expenses (not books),		46,377.39	
College Expenses,		139,182.25	
College Salaries,		433,410.33	
Amount carried forward,		$720,027.75	

Amount brought forward, ...	$720,027.75	
Gymnasium Expenses, ...	9,734.84	
Expenses on College Public buildings, which are not valued in the Treasurer's books, ...	42,023.61	
Expenses on College Dormitories, which are not valued in the Treasurer's books, ...	26,748.92	
Scholarships, paid by the University, ...	3,000.00	
Exhibitions and loans, paid by the University, ...	1,400.00	
Expenses on account of the School of Veterinary Medicine, ...	1,046.70	
Debt of the School of Veterinary Medicine, paid from University Funds, ...	10,114.90	$814,096.72
Balance, showing the deficit for the year, which has been charged to the Insurance and Guaranty Fund,		$40,403.07

The following table shows the results for the years 1902–03 and 1901–02 in the several Departments of the University.

Departments.	1902–03. Surplus.	1902–03. Deficit.	1901–02. Surplus.	1901–02. Deficit.
University, College, Lawrence Scientific School, and Library, ...		$40,403.07	$12,138.77	
Divinity School, ...		14,526.93	9,035.76	
Law School, ...	$31,522.18		41,959.67	
Medical School, ...		13,868.73		$4,355.62
Dental School, ...		2,124.80		5,345.53
Bussey Institution, ...	918.37			348.82
Museum of Comparative Zoölogy, . . .		5,336.38	2,625.43	
Observatory, ...		440.99		5,714.65
Peabody Museum of American Archaeology and Ethnology, ...		844.91		671.30
School of Veterinary Medicine, ...		1,046.70		1,847.66

Gifts have been received during the year as follows:—

GIFTS TO FORM NEW FUNDS OR TO INCREASE OLD ONES.

From the estate of Henry L. Pierce, $45,000 additional, on account of his unrestricted residuary bequest.

From the estate of Robert Henry Eddy, $287 additional, on account of his unrestricted residuary bequest.

From the estate of Mrs. Mary R. Searle, securities valued at $1,928.75, her unrestricted bequest in memory of her son, Eugene N. Aston, of the Class of 1874.

From the anonymous founder of the Professorship of Hygiene, $13,000 in cash, and securities valued at $7,968.66, to be added to the fund of that professorship.

From Mr. and Mrs. Nelson Robinson, $200,000, to be added to the Nelson Robinson Jr. Fund, which was established by them.

From the estate of David Ames Wells, $3,990.15 in cash, and real estate valued at $2,500, additional, on account of his residuary bequest for establishing a prize and publication fund.

From the estate of Henry W. Wales, his bequest of $40,000, the income thereof to be used "for the support of a Professor of the Sanskrit Language, and in the purchase of Books or Manuscripts in that department."

For the establishment of a Fund in memory of the late Edwin L. Godkin, the income thereof to be used in providing for the delivery and publication of lectures upon "The Essentials of Free Government and the Duties of the Citizen," or upon some part of that subject, such lectures to be called "The Godkin Lectures," $12,050, from

Charles Francis Adams.
Alexander Agassiz.
Charles Bonaparte.
James Bryce.
George Burnham, Jr.
John L. Cadwalader.
Andrew Carnegie.
J. Bonham Carter.
James C. Carter.
Joseph H. Choate.
Clemence H. Crafts.
J. M. Crafts.
R. J. Cross.
W. Bayard Cutting.
Samuel B. Dana.
W. E. and the late Mrs. Sara Sedgwick Darwin.
Miss Louise Dawson.
Eugene Delano.
A. V. Dicey.
W. E. Dodge.
Charles W. Eliot.
Frederic B. Elliott.
Theo. W. Ely.
Charles S. Fairchild.
Frederick de P. Foster.
Austen G. Fox.
Wendell P. Garrison.
Richard Watson Gilder.
Mrs. D. C. Gilman.
Miss Alice Gilman.
Geo. M. Gould.
John C. Gray.
John Clinton Gray.
Augustus Hemenway.
James J. Higginson.
Henry Holt.
Miss Gertrude L. Hoyt.
W. R. Huntington.
Henry James.
William James.
Henry La Barre Jayne.
Alfred R. Kimball.
Mrs. H. Kuhn.
Joseph Larocque.
John Howard Latham.
Henry C. Lea.
Lewis Cass Ledyard.
James Lowndes.
Misses Lyon.
Charles McBurney.
Charles F. McKim.
Mr. and Mrs. Charles MacVeagh
Wayne MacVeagh.
Mrs. John Markoe.
Charles H. Marshall.
Cord Meyer.
S. Weir Mitchell.

J. Pierpont Morgan.
John W. T. Nichols.
Charles E. Norton.
A. D. Noyes.
Leonard E. Opdycke.
Wm. J. Palmer.
J. Rodman Paul.
George Foster Peabody.
Albert Pell.
Mrs. Alfred Pell.
Wm. M. Polk.
Henry C. Potter.
George Putnam.
F. W. Rhinelander.
James F. Rhodes.
Mrs. Wm. B. Rice.
J. G. Rosengarten.
Mrs. Abraham B. Sands.
Henry M. Sands.
Georgina Schuyler.
Louisa Lee Schuyler.
Mr. and Mrs. Philip Schuyler.
A. G. Sedgwick.
Frederick Sheldon.
Francis Lynde Stetson.
Anson Phelps Stokes.
Moorfield Storey.
F. K. Sturgis.
Mr. and Mrs. J. Kennedy Todd.
Mr. and Mrs. Merritt Trimble.
Mrs. and Miss Tuckerman.
Harold G. Villard.
Mrs. Henry Villard.
Oswald Garrison Villard.
Samuel G. Ward.
Sidney Webster.
Horace White.
Mrs. Henry Whitman.
William C. Whitney.
F. W. Whitridge.
Stuart Wood.
Sarah C. Woolsey.

From the estate of Robert Charles Billings, $65,000, awarded by the surviving executors of Mr. Billings's will for the following purposes: $50,000 to be called the Robert Charles Billings Fund, the income only to be used for the care of poor sick students under treatment at the Stillman Infirmary; and $15,000 to be called the Robert Charles Billings Fund for the Gray Herbarium, the income only to be used for the purposes of the said Gray Herbarium.

From the estate of Dorman B. Eaton, $16,553.18 in cash, and securities valued at $84,000, in full payment of Mr. Eaton's bequest of $100,000 for establishing a professorship of the Science of Government, with accrued income thereon.

From the estate of George W. Dillaway, $5,000, his bequest for the support of a "fellowship of one year's duration in favor of the graduate from year to year who passes his examination with highest honor in Modern History."

From William Watson Goodwin, $500, to be added to the fund of $7,000 previously given by him for the endowment of the Charles Haven Goodwin Scholarship.

From George Foster Peabody, securities valued at $4,800, for establishing in connection with the graduation of his nephew, Charles Samuel Peabody, of the Class of 1902, a scholarship in the Graduate School, "the scholar to be nominated by the

Chancellor of the University of Georgia from among the recent graduates of that institution."

From Mrs. John Markoe, $5,000, for establishing the Markoe Scholarship in Harvard College.

From the estate of Mrs. Frederic L. Ames, $50,000, the income thereof to be "expended for the maintenance and support of any of the poor and meritorious students in said College."

From the Harvard Club of Chicago, securities valued at $4,700, for establishing the Dunlap Smith Scholarship, the income thereof to be given to some meritorious student in the undergraduate department of Harvard College, or the Lawrence Scientific School.

From the estate of Charles L. B. Whitney, securities valued at $7,798.63, on account of his bequest for the purpose of founding the Mary L. Whitney Scholarship for the benefit of "some needy member of the Freshman Class."

From Mrs. David P. Kimball, $25,000, for establishing the Bertram Kimball Fund, "to be used for aiding poor students of either sex studying under the direction of the Faculty of Arts and Sciences."

From Charles J. Hughes, Jr., $500, to be used as a Loan Fund for the benefit of students in the Law School.

For the Medical School Undertaking (in addition to gifts, amounting to $162,250, which are separately entered among "Gifts for Immediate Use"), as follows: —

From John D. Rockefeller, $527,450.70 additional, on account of his offer of $1,000,000 for new buildings and endowments.

From the estate of Robert Charles Billings, $7,500, the final payment on account of his unrestricted residuary bequest, which has been applied by the Corporation to the Medical School Undertaking.

From Frederick C. Shattuck, $12,500, the final payment on account of his offer of $25,000, to be added to the endowment of the Shattuck Professorship of Pathological Anatomy.

From Mrs. Frederick C. Shattuck, $12,500, the final payment on account of her offer of $25,000, to be added to the endowment of the Jackson Professorship of Clinical Medicine.

From George F. Fabyan, $25,000, to be added to his gift of $100,000 for the endowment of the George Fabyan Professorship of Comparative Pathology.

From James Stillman, $100,000, for the endowment of the James Stillman Professorship of Comparative Anatomy.

From the estate of Miss Ellen Osborne Proctor, $50,000, her bequest for establishing the "Proctor Fund for the Study of Chronic Diseases."

From Mrs. Arthur W. Blake, $500, to be added to the F. B. Greenough Fund for Surgical Research.

From the estate of Robert Treat Paine, $374.21 additional, on account of his residuary bequest for the Observatory.

For the Arnold Arboretum Fund, from

Caleb Chase	$100
Henry P. Curtis	10
A. F. Estabrook	1,000
Harold C. Ernst	20
Robert H. Gardiner	25
B. F. Keith	120
Massachusetts Society for Promoting Agriculture	500
Amount carried forward	$1,775
Amount brought forward	$1,775
Francis Shaw	100
A. Shuman	100
Francis Skinner	2,000
H. M. Whitney	2,500
	$6,475

From Miss Agathe Schurz and Miss Marianne Schurz, $3,000, for establishing, as of March 5, 1903, in memory of their brother, the Herbert Schurz Memorial Free Bed Fund, the income thereof to be used for defraying the expenses of needy students at the Stillman Infirmary.

The total amount of these gifts for capital account is $1,340,876.28, as is also stated on page 34 of this report.

GIFTS FOR IMMEDIATE USE.

From James Ford Rhodes, $1,000, for instruction in the Department of History.

From James H. Hyde, $24.08, for the French Department Library.

From F. C. de Sumichrast, $27.40, for making lantern slides for use in the Department of French.

From an anonymous giver, $50, for certain printing for Botany 1.

For the Botanic Garden, from

Anonymous	$250
Anonymous	1,000
	$1,250

Through Charles R. Lanman, twelve gifts amounting to $800, for a Travelling Fellowship in Indic Philology for 1902–03 and 1903–04.

Through W. L. Putnam, $200, for continuing the subscription to the Transactions of the American Mathematical Society for the further term of two years.

For the Gray Herbarium, from

R. L. Agassiz	$10
J. B. Ames	10
Anonymous	3,000
Anonymous	750
Anonymous	500
Anonymous	50
Anonymous	25
Anonymous	10
Howard P. Arnold	25
Miss Mary F. Bartlett	25
Walter C. Baylies	10
Mrs. Arthur W. Blake	10
William P. Blake	10
Miss M. E. Blatchford	10
Charles P. Bowditch	10
James C. Braman	5
Mrs. J. L. Bremer	10
William Brewster	10
Addison Brown	10
Stephen Bullard	10
E. S. C.	20
H. D. Chapin	10
Charles F. Choate	10
Miss Cora H. Clarke	10
Miss Helen Collamore	10
Mrs. C. A. Cummings	10
Charles P. Curtis	10
Henry P. Curtis	10
Louis Curtis	10
Miss Elizabeth E. Dana	10
Samuel B. Dana	10
Nathan H. Daniels	10
Frank A. Day	25
Walter Deane	15
Amount carried forward	$4,670
Amount brought forward	$4,670
Mrs. Lewis S. Dixon	10
Edward S. Dodge	25
Mrs. Samuel Eliot	10
Mrs. J. W. Elliot	10
William Endicott	25
William Endicott, Jr.	50
Charles F. Fairbanks	10
Mrs. W. Scott Fitz	10
S. W. Fletcher	10
Miss Amy Folsom	10
Mrs. W. H. Forbes	10
Francis C. Foster	10
Mrs. Francis C. Foster	10
Miss C. A. French	10
Charles W. Galloupe	5
Robert H. Gardiner	10
George A. Goddard	10
Miss A. M. Goodwin	10
Francis C. Gray	10
Mrs. F. T. Gray	10
Mrs. H. S. Grew	10
George W. Hammond	10
Mrs. George W. Hammond	10
E. B. Haskell	10
Augustus Hemenway	10
Mrs. Augustus Hemenway	10
Miss Clara Hemenway	10
Miss Annie P. Henchman	10
J. P. B. Henshaw	10
T. W. Higginson	5
Robert C. Hooper	10
Mrs. R. C. Hooper	10
Miss Katharine Horsford	25
Amount carried forward	$5,075

Amount brought forward . .	$5,075
Clement S. Houghton	10
Henry S. Howe	10
Arthur Hunnewell	10
H. S. Hunnewell	10
S. M. J.	10
Charles W. Jenks	10
Bernard Jenney	10
Edward C. Johnson	10
David P. Kimball	10
Mrs. D. P. Kimball	10
Henry H. Kimball	10
Lemuel C. Kimball, Jr.	10
Miss L. S. Kimball	10
George C. Lee	10
J. R. Leeson	50
George V. Leverett	25
Mrs. George Linder	10
Mrs. Mary E. Lodge	15
Augustus P. Loring	10
Miss Louisa P. Loring	10
William C. Loring	10
Mrs. William C. Loring	10
Arthur T. Lyman	10
Miss E. F. Mason	10
William A. Munroe	10
Grenville H. Norcross	10
Mrs. Otis Norcross	10
Peder Olsen	10
Miss Emily L. Osgood	10
Mrs. Henrietta Page	5
Miss E. S. Parkman	10
Frank E. Peabody	10
F. H. Peabody	750
Miss M. R. Peabody	10
Mrs. J. C. Phillips	10
Henry Pickering	10
Mrs. Henry Pickering	10
David Pingree	15
Laban Pratt	10
James M. Prendergast	10
Miss Elizabeth C. Putnam . . .	5
Amount carried forward . .	$6,280

Amount brought forward . .	$6,280
George Putnam	10
Edward L. Rand	10
Miss Sarah E. Read	10
Mrs. William Howell Reed . .	10
George E. Richards	10
Denman W. Ross	5
Mrs. M. D. Ross	10
Mrs. Waldo O. Ross	10
J. E. Rothwell	10
Mrs. R. S. Russell	10
Timothy F. Sawyer	10
George O. Sears	10
Mrs. K. W. Sears	10
Mrs. P. H. Sears	10
Francis Shaw	10
Mrs. G. H. Shaw	20
Mrs. Quincy A. Shaw	50
David N. Skillings	10
F. P. Sprague	10
I. Homer Sweetser	10
S. Lothrop Thorndike	10
Miss Cornelia Warren	10
S. D. Warren	10
B. M. Watson	10
Frank G. Webster	10
Mrs. Frank G. Webster	10
Mrs. Charles W. Welch	10
Conrad Wesselhoeft	5
Mrs. C. T. White	10
George R. White	750
S. B. Whiting	10
George Wigglesworth	10
Miss Adelia C. Williams	10
John D. Williams	10
Ralph B. Williams	100
Samuel H. Winkley	10
Mrs. Roger Wolcott	10
Edward S. Wood	10
Mrs. Charlotte F. Woodman . .	10
Miss Mary Woodman	10
John G. Wright	10
	$7,560

From A. L. Cross, $39.52, towards the cost of printing Vol. IX of Harvard Historical Studies.

From James J. Storrow, $3,000, for electrical apparatus for the Department of Engineering.

From Mrs. Charles H. Eaton, $100, to be expended under the direction of Assistant Professor Sabine.

For a course of six lectures in Philosophy, from

James M. Barnard	$100
Mary Putnam Jacobi	100
William James	175
A. Marquand	25
John T. Morse, Jr.	150
Edward C. Pickering	50
	$600

For the building of Emerson Hall, from

Edwin H. Abbot	$500
Anon.	2
Anonymous	50,000
Anonymous	1
Francis R. Appleton	25
Chester H. Arnold	5
Frederick F. Ayer	100
"B"	10
Mrs. C. E. Bacon	10
Mr. and Mrs. J. M. Barnard	500
William S. Bigelow	1,000
Miss Elizabeth Bradford	25
Lawrence G. Brooks	2
Francis Bullard	500
Stephen Bullard	200
Mrs. William S. Bullard	300
J. Eliot Cabot	2,500
Mrs. Louis Cabot	500
Richard B. Carter	5
John J. Chapman	200
Mr. and Mrs. H. Lincoln Chase	5
Stephen Chase	10
J. H. Clark	100
Class of '67, member of	250
Mrs. Mary N. Colvin and Mrs. Delafield	25
Mrs. A. Coolidge	10
Miss Grace G. Cowing	10
Joshua Crane	10
John Crosby	10
Mr. and Mrs. C. A. Cummings	250
Charles P. Curtis	500
Mrs. G. S. Curtis	15
S. Newton Cutler	25
R. H. Dana	1,000
Thomas Dawes	20
Smith O. Dexter	1
Miss Louise Diman	5
Amount carried forward	58,631

Amount brought forward	$58,631
George B. Dorr	1,000
Miss Julia M. Dutton	25
"E"	50
Mr. and Mrs. Charles W. Eliot	200
Emersonians of Englewood, N.J.	10
"Euphorion"	50
Mrs. Glendower Evans	25
Mrs. James T. Fields	25
Henry Wilder Foote	50
Mrs. W. H. Forbes	10,000
J. Geddes, Jr.	2
Albert Gehring	200
Miss Amelia M. Goodwin	50
Mr. and Mrs. W. W. Goodwin	100
George A. Gordon	50
Francis C. Gray	100
Ira E. Gray	100
George Walton Green	10
C. E. Guild, Jr.	15
Mrs. George S. Hale	15
Edward Harding	5
W. T. Harris	100
Mrs. Jacob H. Hecht	100
F. H. and C. A. Hedge	50
Mrs. Charles R. Hemenway	200
Henry L. Higginson	250
Thomas Wentworth Higginson	5
Mr. and Mrs. A. S. Hill	100
Charles F. Hinkle	10
Ethel Whitney Holbrook	25
Henry Holt	100
H. H. Horne	10
Joseph Howland Hunt	25
"In Memoriam"	25
Miss Marian C. Jackson	10
William James	5
Miss Elizabeth C. Jenkins	5
Amount carried forward	$71,733

Amount brought forward .	$71,733
Arthur M. Keith	5
Harris Kennedy	20
Miss Hannah Parker Kimball	50
Edward B. Lane	5
William Lawrence	25
Miss Josephine Lazarus	25
Mrs. Henry Lee	10,000
Joseph Lee	10,000
Charles A. Loeser	200
Mrs. Stephen Loines	25
Miss Louisa P. Loring	150
"Lover of Emerson"	2
Mrs. Edward Lowell	10
Miss Georgiana Lowell	10
Percival Lowell	100
Mrs. Arthur Lyman	10
Arthur T. Lyman	5,000
Frank Lyman	50
John P. Lyons	5
George Grant McCurdy	5
McDonald McFayden	5
Miss Fanny P. Mason	10,000
Mr. and Mrs. Daniel Merriman	100
Miss Frances R. Morse	25
Mrs. Samuel T. Morse	200
Hugo Münsterberg	100
Grenville H. Norcross	250
Arthur O. Norton	10
J. M. P.	10
Robert Treat Paine	100
Frederic Palmer	5
George H. Palmer	100
Mr. & Mrs. Francis G. Peabody	100
Norton Perkins	25
Mrs. John C. Phillips	100
David Pingree	500
F. L. Porter	25
George Putnam	250
Mrs. George Putnam	100
James J. Putnam	25
Milton Reed	25
Amount carried forward .	$109,485

Amount brought forward	$109,485
J. H. Rhoades, Jr.	10
R. C. Robbins	1,000
S. W. Rodman	20
James H. Ropes	5
William Ladd Ropes	5
Selwyn A. Russell	10
C. W. S.	20
Edward T. Sanford	10
Mrs. F. B. Sawin	1
Miss Annie L. Sears	25
Miss Mary P. Sears	25
Miss Emily Sever	25
Mrs. G. H. Shaw	250
Mrs. Quincy A. Shaw	1,000
Miss Olive Simes	15
Mr. and Mrs. William Simes	100
Miss Elizabeth R. Simmons .	25
L. Sprague	5
Mrs. C. W. Stone	5
Miss Elsa W. Stone	5
James J. Storrow	250
Miss Anna S. Tapley	50
Willis Tew	25
Mrs. Bayard Thayer	500
James Bradley Thayer	100
Mrs. James B. Thayer	100
Washington B. Thomas	1,000
A. A. Vaughan	15
"W"	5
Mrs. Oliver F. Wadsworth .	10
Samuel G. Ward	1,000
Henry B. Washburn	2
George F. Weld	5
Miss Susan J. Wentworth .	100
W. A. White	100
George Wigglesworth	100
Miss Ann Bent Winsor	10
Herbert H. Yeames	2
	$115,420
Interest on deposit	175.75
	$115,595.75

From George Foster Peabody, $5,000, "for plantation of shrubs within the fence and about the buildings of the College Yard." This gift was made in connection with the graduation of Mr. Peabody's nephew, Charles Samuel Peabody, of the Class of 1902.

From Arthur T. Lyman, $500, for making extra charts and maps for the Department of Economics.

From an anonymous giver, $2,500, to be expended under the direction of Professor Peabody for the Department of the Ethics of the Social Questions.

For the Bermuda Biological Station for Research, from

Harris Kennedy	$50
Theodore Lyman	300
Nathaniel C. Nash	150
John E. Thayer	500
	$1,000

For research work in Experimental Phonetics, from

Alfred Bowditch	$10
C. P. Bowditch	10
Francis Blake	10
S. Eliot Guild	5
Augustus Hemenway	10
F. L. Higginson	10
H. L. Higginson	10
G. M. Lane	10
Amount carried forward	$75
Amount brought forward	$75
Elliot C. Lee	10
Francis C. Lowell	5
John T. Morse	10
Francis Shaw	10
James J. Storrow	10
A. C. White	5
	$125

For the South End House Fellowship, from

E. W. Grew	$25
Randolph C. Grew	100
Arthur T. Lyman	25
Herbert Lyman	20
Reginald C. Robbins	50
	$220

From Mrs. C. M. Barnard, $600, her twentieth yearly gift for the Warren H. Cudworth Scholarships.

From an anonymous giver, $350, for the Ricardo Prize Scholarship for 1903–04.

From an anonymous giver, $100, to be used in the same way as the income of scholarship funds is used.

From the Dante Society, $100, for a Dante Prize; and $150, for the purchase of books for the Dante collection in the College Library.

From Alain C. White, $250, for the purchase of books for the Dante collection in the College Library.

From Archibald Cary Coolidge, $1,250, for the purchase of books for the College Library.

From Harold J. Coolidge, $50, his third annual gift for the purchase of books on the Chinese question, for the College Library.

For the purchase of early editions of the printed Bible, from

James Barr Ames	$25	Amount brought forward	$160
Henry W. Cunningham	10	Albert Matthews	20
George Dexter	25	Mrs. F. L. W. Richardson	25
J. H. Gardiner	20	Mrs. Charles F. Sprague	100
Edwin Ginn	25	Charles Thorndike	25
George Lyman Kittredge	5	George Francis Weld	5
Robert M. Lawrence	5	Alain C. White	25
William Lawrence	25	George Wigglesworth	25
Francis C. Lowell	20	The Department of English	8.81
Amount carried forward	$160		$393.81

For the purchase of books in English literature of the seventeenth and eighteenth centuries for the College Library, additional, from

Francis R. Appleton	$250
George Baty Blake	25
W. Kirkpatrick Brice	25
W. Amory Gardner	100
A. A. Sprague	25
Ralph B. Williams	10
	$435

From John Drew, $1,000, for the purchase of a collection of books on the history of the stage, formerly belonging to Robert W. Lowe, dramatic critic and bibliographer.

From Mrs. Louis Bettmann, in memory of her son, Milton Bettmann, of the Class of 1897, $300, for the purchase of books for the College Library.

From Ernest L. Gay, $28.80, for the purchase of books for the College Library.

For repairs in the chapel of Divinity Hall, from

Church of the Saviour, Brooklyn	$500
Daniel Merriman	25
	$525

From the Lawrence Scientific School Association, $300, for scholarships for 1902–03 and for the Summer School of 1903, for students in the Lawrence Scientific School.

From the Society for Promoting Theological Education, $749.96, for the Library of the Divinity School.

Through Robert T. Jackson, $34.48, to defray the cost of certain work done in the Palaeozoic room at the Museum of Comparative Zoölogy.

For the construction of an aquarium in the basement of the Museum of Comparative Zoölogy, from

Oliver Ames	$100	
Arthur Astor Carey	1,000	
David W. Cheever	10	
John C. Phillips	300	
John E. Thayer	250	
A. G. Weeks, Jr.	50	
	$1,710	
Accrued interest		4.36
		$1,714.36

For the Peabody Museum of American Archaeology and Ethnology, from

Anonymous	$100
Mrs. N. E. Baylies	25
Clarence B. Moore	500
	$625

From Roland B. Dixon, $9, for binding a series of volumes in the Peabody Museum of American Archaeology and Ethnology.

From James J. Putnam and Moorfield Storey, trustees, $500, towards a salary in the Medical School.

From an anonymous giver, $500, to be used in the Department of Pathology in the Medical School for the expenses of an investigation of small-pox.

From Henry F. Sears, $1,200, to be added to his previous gifts for the Pathological Department Library.

For the Surgical Laboratory, from

C. W. Amory	$200
W. S. Bigelow	200
Edward S. Grew	50
Henry C. Pierce	200
	$650

From Mrs. Arthur W. Blake, $300, to be added to the income of the F. B. Greenough Fund for Surgical Research.

From Miss Katherine E. Bullard and William N. Bullard, $500 each, to be used under the direction of the Shattuck Professor of Pathological Anatomy, with the approval of the President and Fellows, for the purpose of advancing the knowledge of the pathology of the nervous system.

Through Thomas Dwight, $900, for defraying expenses connected with original investigation in the Department of Anatomy.

For the Medical School Undertaking (in addition to gifts, amounting to $734,950.70, which are separately entered among "Gifts to form New Funds or to increase Old Ones"), as follows: —

From David Sears, $100,000, towards the cost of one of the buildings.

For "Land, Buildings, Equipment, and Endowments," from

C. W. Amory	$10,000
John Lewis Bremer	10,000
David P. Kimball	5,000
Joseph Lee	5,000
Ogden Mills	5,000
Nathaniel Thayer	25,000
Miss Mary Lee Ware	2,000
Charles Wyman	250
	$62,250

From Mrs. Henry Draper, of New York, an additional sum of $9,999.96, to be expended by the Director of the Observatory in prosecuting the researches in the photography of stellar spectra, with which the late Dr. Henry Draper's name is honorably associated.

From an anonymous giver, $500, for present use at the Observatory.

From an anonymous giver, $200, to be added to the income of the Fund for the Advancement of Astronomical Science (1902).

For publishing lunar photographs, from

E. C. Pickering	$500
W. H. Pickering	100
N. S. Shaler	100
	$700

From the Massachusetts Society for Promoting Agriculture, $1,375, "to be expended at the Arnold Arboretum by the Director, to increase the knowledge of Trees."

From Miss Abby A. Bradley, $600, to be added to the income of the William L. Bradley Fund for 1902–03.

From Evans, Almirall & Co., $750, towards the cost of the license for the Evans system of hot-water heating installed in Pierce Hall.

From Mr. and Mrs. Nelson Robinson, $5,000 additional, for the equipment of Nelson Robinson Jr. Hall.

From James Stillman, $50,000, for the erection of a contagious ward in connection with the Stillman Infirmary, which was also his gift.

From Friends of the Department of Geology, $475, for Scholarships in the Harvard College Colorado Summer Course in Geology.

From the Committee on the Regulation of Athletic Sports, $20,000, to be added to its previous gifts for improvements upon, and additions to, The Soldier's Field, to be made by said Committee, with the approval of the Corporation.

From H. G. Curtis, $85, for a case for the medals which he gave to the College.

From William Amory Gardner, $10,000, towards the cost of a new University Library Building.

The total amount of these gifts for immediate use is $415,542.12, as is also stated on page 32 of this report.

CHARLES F. ADAMS, 2D, *Treasurer.*

BOSTON, October 27, 1903.

ACCOUNTS

General Statement of Receipts and Disbursements for the year ending

INCOME.

Interest on notes, mortgages, advances, &c.,		$83,571.18
Interest on Policies Mass. Hospital Life Insurance Co.,		849.00
Interest on Bank Deposits.		
Deposit in Adams Trust Co.,	$1,583.22	
" City Trust Co.,	43.01	
" National Union Bank,	1,951.88	
" Old Boston National Bank,	2,693.38	6,271.49
Interest on Public Funds (after deducting $174.77 for sinking premiums).		
United States 4's,	$7,742.00	
Massachusetts 3½'s of 1913,	1,185.25	
" " " 1916,	154.15	
" " " 1938,	95.83	
City of Boston 3½'s,	350.00	
City of Laramie 6's,	39.00	9,566.23
Interest on Railroad Bonds (after deducting $8,098.35 for sinking premiums).		
Baltimore & Ohio 4's,	$4,000.00	
" " (P. L. E. & W. V. system) Ref. 4's,	4,000.00	
" " conv. 4's,	1,875.00	
" " So. Western 3½'s,	3,500.00	
Bangor & Aroostook Ref. 4's,	5,000.00	
Burlington & Mo. River in Neb. 6's,	15,719.95	
Central Vermont 4's,	1,740.00	
Chicago & Alton 4's,	2,555.56	
Chicago, Burlington & Quincy 4's,	120.00	
" " " 3½'s,	15,244.44	
Chicago & No. Western Gen. M. 4's,	774.90	
" " Madison Extension 7's,	5,310.09	
Chicago, Rock Island & Pacific 4's,	3,920.90	
Chicago Terminal Transfer 4's,	4,000.00	
Eastern 6's,	12,117.72	
Eastern sterling 6's,	5,736.67	
Fort Scott, So. E. & Memphis 7's,	3,885.00	
Indiana, Illinois & Iowa 4's,	4,000.00	
Kansas City, Fort Scott & Memphis 6's,	7,380.38	
Kansas City, Memphis & Birmingham Income 5's,	1,192.35	
Kansas & Missouri 5's,	2,700.00	
Long Island 4's,	12,000.00	
Louisville & Jeffersonville Bridge 4's,	1,822.22	
Massachusetts Electric Co's. 4½'s,	4,500.00	
Metropolitan West Side Elevated 4's,	4,000.00	
" " " Extension 4's,	3,811.11	
Minneapolis Union 5's,	4,866.83	
Amounts carried forward,	$135,773.12	$100,257.90

of the Treasurer of Harvard College,
July 31, 1903.

EXPENSES.

Paid to account of expenses in the		
University, as per Table I (page 61).		
Salaries,	$40,960.43	
Retiring Allowances,	14,994.28	
Sundry payments made from special Funds and gifts,	19,389.25	
Other expenses,	55,596.59	
Expenses of the School of Veterinary Medicine for 1902–03,	1,046.70	
Debt of the School of Veterinary Medicine,	10,114.90	$142,102.15
College, as per Table II (page 66).		
Salaries for instruction,	$417,227.00	
Sundry salaries,	16,183.33	
Expenses on College Public Buildings which are not valued in the Treasurer's books and which are not separately entered in this table,	42,023.61	
Expenses on College Dormitories, which are not valued in the Treasurer's books,	26,748.92	
General expenses,	74,147.75	
Fellowships,	18,975.00	
Scholarships,	47,499.97	
Exhibitions and expenses therefor,	25,448.40	
Prizes,	1,989.25	
Botanic Garden and Botanic Museum,	8,778.38	
Gray Herbarium,	11,936.36	
Hemenway Gymnasium,	9,734.84	
Jefferson Physical Laboratory,	4,861.89	
Appleton Chapel,	8,550.36	
Summer Schools,	19,340.71	
Books, from special Funds and gifts,	2,497.48	
Apparatus and expenses for research, from special Funds and gifts,	7,188.35	
Publication expenses, from special Funds and gifts,	3,170.65	
Sundry payments from special Funds and gifts,	19,791.85	
Appropriations for collections and laboratories,	37,143.43	803,237.53
Library, as per Table III (page 84).		
Salaries,	$15,500.00	
Services and wages,	19,362.05	
Books,	25,171.31	
Other expenses,	11,665.68	71,699.04
Divinity School, as per Table IV (page 87).		
Salaries for instruction,	$27,384.56	
Scholarships and Exhibitions,	1,787.06	
Library building alterations,	1,979.35	
Other expenses,	11,971.31	43,122.28
Amount carried forward,		$1,060,161.00

General Statement of Receipts and Disbursements
for the year ending

INCOME (*continued*).

Amounts brought forward, ...	$135,773.12	$100,257.90
Interest on Railroad Bonds (*continued*).		
New York Central & H. R. 3½'s (L. S. & M. S. Coll.),	8,625.00	
New York Central & H. R. 3½'s (M. C. Coll.), . .	1,190.00	
New York, Ontario & Western 4's, ...	7,884.13	
Northern Pacific–Great Northern Joint 4's, ...	18,040.00	
Oregon Short Line 5's, ...	4,583.03	
Pennsylvania Co. 3½'s, ...	3,447.50	
Pennsylvania Conv. 3½'s, ...	1,417.50	
Rutland 6's, ...	284.68	
Rutland Car Trust 4½'s, ...	4,230.00	
St. Louis & San Francisco Ref. 4's, ...	4,000.00	
Schenectady 4½'s, ...	1,273.40	
Second Avenue 5's, ...	4,605.26	
Terminal R. R. Association of St. Louis 4's, . . .	2,944.45	
Third Avenue 4's, ...	7,850.31	
Union Pacific 4's, ...	18,000.00	224,148.38
Interest on Sundry Bonds (after deducting $2,969.91 for sinking premiums).		
American Bell Telephone Co. 4's, ...	$10,162.71	
" Tel. and Tel. Co. 4's, ...	8,000.00	
Walter Baker & Co. Ltd. 4½'s, ...	4,842.75	
Broadway Realty Co. 5's, ...	10,082.03	
Brookline Gas Light Co. 5's, ...	250.00	
Chicago Edison Co. 5's, ...	4,709.60	
Chicago Junc. Railways & Union Stock Yards Co. 5's,	14,979.85	
" " " " 4's,	4,000.00	
The Electric Corporation 7's, ...	35.00	
Girard Point Storage Co. 3½'s, ...	691.52	
Metropolitan Tel. & Tel. Co. 5's, ...	7,500.00	
Mexican Coal & Coke Co. 5's, ...	150.00	
Montreal Light, Heat and Power Co. 4½'s, ...	4,466.66	
Municipal Gas & Electric Co. 4½'s, ...	3,075.00	
New England Tel. & Tel. Co. 6's, ...	7,128.90	
" " " 5's, ...	4,058.82	
St. Louis National Stock Yards Co. 4's, ...	4,000.00	88,132.84
Dividends on Railroad Stocks.		
Boston & Lowell, ...	$2,880.00	
Boston & Maine, ...	2,219.00	
Fitchburg, preferred, ...	1,185.00	
Massachusetts Electric Co's., preferred, ...	2,500.00	
New York Central & Hudson River, ...	7,490.00	
Northern (N. H.), ...	1,740.00	
Amounts carried forward, . . .	$18,014.00	$412,539.12

of the Treasurer of Harvard College,
July 31, 1903.

EXPENSES (*continued*).

Amount brought forward,		$1,060,161.00
Law School, as per Table V (page 89).		
Salaries for instruction,	$44,945.83	
Scholarships,	6,000.00	
Prize,	400.00	
Expenses on account of the proposed addition to **Austin** Hall,	6,237.50	
Other expenses,	34,384.71	91,968.04
Medical School, as per Table VI (page 90).		
Salaries for instruction,	$102,091.66	
Fees repaid to Instructors,	5,800.00	
Fellowships,	2,675.00	
Scholarships and Exhibitions,	5,105.84	
Prizes, expenses,	20.82	
Warren Anatomical Museum,	589.69	
Books, from special Funds and gifts,	1,398.36	
Sundry payments made from special Funds and gifts,	4,082.48	
Laboratory appropriations,	13,600.69	
Other expenses,	32,460.41	167,824.95
Medical School Undertaking, as per Table VI (page 95).		
Real estate, Huntington Avenue, Boston,	$22,000.00	
Interest on advances,	18,214.31	
Building expenses, Architects, Engineers,	36,000.00	
Other expenses,	1,568.98	77,783.29
Dental School, as per Table VII (page 96).		
Salaries for instruction,	$12,630.00	
Other expenses,	11,188.79	23,818.79
Museum of Comparative Zoölogy, as per Table VIII (page 97).		
Paid from sundry Funds on the order of the Faculty,	$35,057.43	
Sturgis Hooper Fund, salary and expenses,	5,125.14	
Scholarship,	250.00	
Other expenses,	1,649.79	42,082.36
Peabody Museum of American Archaeology and Ethnology, as per Table IX (page 98).		
Peabody Professor Fund, **Peabody** Professor,	$2,388.41	
Fellowships and Scholarship,	1,785.24	
Other expenses,	7,967.58	
	$12,141.23	
Less use of heating plant for the Semitic Building,	150.00	11,991.23
Amount carried forward,		$1,475,629.66

General Statement of Receipts and Disbursements for the year ending

INCOME (*continued*).

Amounts brought forward, . . .			$18,014.00	$412,539.12
Dividends on Railroad Stock (*continued*).				
Old Colony, ...			2,485.00	
Pennsylvania, ...			12,801.00	
West End Street, preferred, ...			208.00	33,508.00
Dividends on Manufacturing Stocks.				
Amoskeag Manufacturing Co., ...			$1,200.00	
Merrimack " "			1,122.00	
Pacific Mills, ...			2,400.00	4,722.00
Dividends on Real Estate Trust Stocks.				
Barristers Hall Trust, ...			$2,500.00	
Boston Real Estate Trust, ...			675.00	
Essex Street Trust, ...			3,000.00	
Kimball Building Trust, ...			150.00	
Paddock Building Trust, ...			1,783.50	
Post Office Square Building Trust, ...			4,000.00	12,108.50
Dividends on Sundry Stocks.				
American Express Co., ...			$80.00	
American Telephone & Telegraph Co., ...			4,416.67	
Calumet & Hecla Mining Co., ...			375.00	4,871.67
Real Estate Investments, from rents, &c., net receipts.				
Cambridge (University Houses and Lands).				
Gross receipts, ...		$43,225.18		
Less Taxes, ...	$4,764.66			
Insurance, ...	930.10			
Repairs, improvements, care, &c., ...	15,227.14	20,921.90	$22,303.28	
Boston (general investments).				
Gross receipts, ...		$200,631.64		
Less Taxes, ...	$43,978.20			
Insurance, ...	5,128.42			
Repairs, improvements, care, &c., ...	6,376.32	55,482.94	145,148.70	
Bussey real estate.				
Gross receipts, ...		$38,690.15		
Less Taxes, ...	$9,886.40			
Insurance, ...	20.77			
Interest, ...	1,293.31			
Repairs, improvements, care, &c., ...	5,946.25			
Heat and power, . . .	5,747.00	22,893.73	15,796.42	
Amounts carried forward, . . .			$183,248.40	$467,749.29

of the Treasurer of Harvard College,
July 31, 1903.

EXPENSES (*continued*).

Amount brought forward,		$1,475,629.66
Observatory, as per Table X (page 99).		
Salaries,	$15,700.00	
Addition to fireproof building,	4,277.02	
Other expenses,	39,850.27	59,827.29
Bussey Institution, as per table XI (page 100).		
Salaries for instruction,	$8,000.00	
Other expenses,	10,865.97	18,865.97
Arnold Arboretum, as per Table XII (page 101).		
Salaries,	$3,500.00	
Other expenses,	14,018.15	17,518.15
Annuities from the following Funds.		
Advancement of Astronomical Science (1901),	$2,380.51	
" " " " (1902),	316.22	
Bussey Trust,	4,000.00	
Caroline Brewer Croft,	2,208.60	
Gurney,	1,000.00	
Professorship of Hygiene,	2,000.00	
Alexander W. Thayer,	480.00	
Charles Wilder,	1,920.00	14,305.33
Class Funds.		
Paid the Secretary of the **Class of 1853,**		149.00
Sundry payments.		
Calvin and Lucy Ellis Fund, taxes,	$93.91	
Charles L. Hancock Fund, taxes on Chelsea real estate,	41.36	
Harvard Memorial Society Fund, Treasurer of the Society,	120.26	
Pennoyer Scholarship Fund, postage and commissions,	29.15	
Professorship of Hygiene Fund, legal expenses,	15.75	
John W. & Belinda L. Randall Fund, Treasurer of Social Service Committee,	100.00	
Rumford Professorship Fund, part of Baring Bros. & Co.'s commissions on account of French Rente, sold in 1888,	72.52	
Mary R. Searle Fund, New York State tax on transfer of securities,	76.50	
Daniel Williams Fund, for the benefit of the Masphee and Herring Pond Indians,	779.96	
Sarah Winslow Fund, to the Teacher at Tyngsborough, Mass.,	112.09	
Amounts carried forward,	$1,441.50	$1,586,295.40

General Statement of Receipts and Disbursements
for the year ending

INCOME (*continued*).

Amounts brought forward, ...			$183,248.40	$467,749.29
Real Estate Investments (*continued*).				
Sundry estates (special investments).				
Gross receipts, ...		$6,734.65		
Less Taxes, ...	$2,008.06			
Repairs, ...	433.23			
Insurance, ...	421.50			
Advances repaid, . . .	63.37			
Interest, ...	3.17	2,929.33	3,805.32	187,053.72
Receipts from Students.				
Tuition fees, regular courses.				
College, ...		$432,196.97		
Divinity School, ...		5,749.54		
Law School, ...		94,773.50		
Medical School, ...		82,268.75		
Dental "		11,817.50		
Bussey Institution, ...		3,565.00	$630,371.26	
Tuition fees, Summer courses.				
College, ...		$29,691.17		
Divinity School, ...		855.00		
Medical "		5,075.00	35,621.17	
Laboratory fees.				
College, ...		$28,184.17		
Medical School, ...		3,032.45		
Dental "		2,051.73	33,268.35	
Examination fees.				
College. Admission, ...		$4,735.00		
Condition, ...		420.00		
Degree of Ph.D., . . .		30.00		
Medical School. Condition, . . .		468.00		
Dental " " . . .		179.00	5,832.00	
Graduation fees.				
College, ...		$8,280.00		
Medical School, ...		3,420.00	11,700.00	
Matriculation fees, Medical School, ...			415.00	
Rooms in dormitories.				
College buildings, ...		$104,320.00		
Less receipts from students, separately entered in University Houses and Lands account, ...		21,920.00		
		$82,400.00		
Divinity School buildings, ...		2,770.00	85,170.00	
Amounts carried forward, ...			$802,377.78	$654,803.01

EXPENSES (*continued*).

Amounts brought forward, ...	$1,441.50	$1,586,295.40
Sundry payments (*continued*).		
Woodland Hill Fund, taxes on Muddy River land, and boundary wall on Walter St., ...	3,201.98	
Gifts for Additions to The Soldier's Field, real estate,	5,242.96	
" Improvements and Additions to The Soldier's Field, real estate, ...	6,257.04	
" Cuban Teachers, expenses, ...	150.00	
" the purchase of land in New Hampshire,	1,692.52	17,986.00
Construction Funds.		
Emerson Hall, ...	$1,218.80	
Pierce Hall, ...	5,055.14	
Semitic Building, ...	7,309.60	
John Simpkins Hall, ...	624.54	
Stadium, ...	27,978.22	
Stillman Infirmary, ...	2,518.06	
University Museum, ...	344.29	45,048.65
Total amount of expenses, ...		$1,649,330.05

INVESTMENTS AND SUNDRY PAYMENTS.

GENERAL INVESTMENTS.

$100,000	Chicago & Alton Railway 4% Collateral Notes of 1907, ...	$98,350.00	
100,000	Chicago & No. Western R. R. Gen. M. 3½'s of 1987, ...	101,000.00	
42,000	Kansas City, Fort Scott & Memphis R.R. Cons. M. 6's of 1928, ...	51,517.50	
114,000	Kansas City, Memphis & Birmingham R. R. Assented Income 5's of 1934, ...	103,500.00	
200,000	Louisville & Jeffersonville Bridge Co. 1st M. 4's of 1945, ...	191,000.00	
100,000	New York Central & Hudson River R. R. 3½'s of 1998 (L. S. & M. S. Coll.), ...	93,550.00	
46,500	Pennsylvania R. R. Conv. 3½'s of 1912 (50%),	23,250.00	
100,000	Schenectady Railway 1st M. 4½'s of 1941, . .	105,000.00	
200,000	Terminal R. R. Association of St. Louis Gen. M. Ref. 4's of 1953, ...	200,000.00	
100,000	Third Avenue R. R. (N. Y.) 1st Cons. M. 4's of 2000, ...	98,487.50	
1,000	shares American Tel. & Tel. Co., ...	100,000.00	
500	" Chicago & No. Western R. R. common,	82,562.50	
664$\frac{2}{7}$	" Pennsylvania R. R., received in exchange for $46,500 Pennsylvania R.R.Conv. 3½'s of 1912, ...	46,523.00	
	Amounts carried forward, . . .	$1,294,740.50	$1,649,330.05

General Statement of Receipts and Disbursements for the year ending

INCOME (*continued*).

Amounts brought forward,		$802,377.78	$654,803.01
Receipts from Students (*continued*).			
Library fines.			
College,	$344.99		
Divinity School,	5.95	350.94	
Care of patients in **Stillman** Infirmary,		4,500.76	
Use of Microscopes.			
Medical School,	$1,010.45		
Dental School.	99.00	1,109.45	
Use of lockers, Hemenway Gymnasium,		3,707.50	
Summer Camp, engineering,		6,518.04	818,564.47
Sundries.			
William Pennoyer Annuity,		$21.22	
Professorship of Hygiene, from Trustees,		1,220.26	
Rumford Professorship, from Baring Bros. & Co.,		1.37	
Asa Gray's copyrights,		823.90	
Trustees of **Edward Hopkins,**		200.73	
Trustee of **C. L. Hancock** real estate,		1,149.65	
Trustees of **Sturgis** Fund, for printing Observatory Annals,		2,756.77	
Sale of grass, wood, old material, &c.,		6,155.50	
" old examination papers,		387.92	
" tickets to Commencement Dinner,		583.00	
" tickets to Divinity School Alumni Dinner,		47.00	
" books, pamphlets, catalogues, &c.,		4,698.20	
Board of horses, cattle, &c., at **Bussey** Institution,		5,517.97	
Use of Library by resident graduates and others,		120.00	
" Gymnasium by graduates and others,		78.88	
" Buildings (not Univ. Houses and Lands),		6,720.00	
Fees in Infirmary, Dental School,		4,683.52	35,165.89
Sundry Gifts for immediate use (see page 22),			415,542.12
Total amount of income,			$1,924,075.49

RECEIPTS EXCLUSIVE OF INCOME.

GIFTS FOR CAPITAL ACCOUNT.

Rebecca C. Ames Fund,	$50,000.00	
Arnold Arboretum Fund (additional),	6,475.00	
Robert Charles Billings Fund (additional),	7,500.00	
Robert Charles Billings Fund (**Stillman** Infirmary),	50,000.00	
Robert Charles Billings Fund (**Gray** Herbarium),	15,000.00	
George W. Dillaway Fellowship Fund,	5,000.00	
Eaton Professorship of the Science of Government Fund,	100,553.18	
Amounts carried forward,	$234,528.18	$1,924,075.49

of the Treasurer of Harvard College,
July 31, 1903.

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amounts brought forward, . .	$1,294,740.50	$1,649,330.05

GENERAL INVESTMENTS (*continued*).

1,440 shares Pennsylvania R. R., ...	86,400.00	
500 " New York, New Haven & Hartford R.R.,	87,500.00	
5,000 rights " " " "	5,875.00	
750 shares Kimball Building Trust (10%), . . .	7,500.00	
Improvements on **Gray** Estate, ...	34,812.74	
Cancellation of Lease of **Hayward** Estate, ...	10,000.00	
Advances to **Bussey** Real Estate, for improvements,	29,282.60	
" **Cowdin** Real Estate, for betterments, .	2,152.94	
" **Harvard** Dining Association, for improvements, ...	214.47	
Invested in notes, ...	2,024,000.00	
Accrued interest and expenses on bonds and notes bought, ...	8,821.86	3,591,300.11

SPECIAL INVESTMENTS.

Price Greenleaf Fund.

$8,000 Kansas City, Fort Scott & Memphis Cons. M. 6's of 1928, ...	$9,820.00	
7,500 Pennsylvania R. R. Conv. 3½'s of 1912 (50%),	3,750.00	
107½ shares Pennsylvania R. R., received in exchange for $7,500 Pennsylvania R. R. Conv. 3½'s of 1912, ...	7,500.00	
$50,000 Note of Massachusetts Cotton Mills, ...	50,000.00	
Accrued interest on Bonds bought, ...	48.00	71,118.00

University Houses and Lands.

Estate No. 16 Oxford Street, Cambridge, ...	$13,500.00	
Legal expenses thereon, ...	96.15	13,596.15

Insurance and Guaranty Fund.

Estate, Lucas Street, Boston, taken on account of the debt of the School of Veterinary Medicine, ...		4,000.00

Property received for the Professorship of Hygiene Fund (additional).

11 shares Atchison, Topeka & Santa Fè R. R., preferred, ...	$1,078.54	
33 shares Union Pacific R. R., preferred, ...	3,040.12	
Deposit in Franklin Savings Bank, ...	1,054.69	
" Provident Institution for Savings, . . .	1,210.18	
" Suffolk Savings Bank, ...	1,585.13	7,968.66

Property received for the **George Foster Peabody** Scholarship Fund.

6,000 Mexican Coal & Coke Co. 1st M., S. F. 5's of 1926, . . .		4,800.00
Amount carried forward, ...		$5,342,112.97

RECEIPTS EXCLUSIVE OF INCOME (*continued*).

	Amounts brought forward, . . .	$234,528.18	$1,924,075.49
	GIFTS FOR CAPITAL ACCOUNT (*continued*).		
	Robert Henry Eddy Fund (additional), ...	287.00	
	George Fabyan Professorship of Comparative Pathology Fund (additional), ...	25,000.00	
	Godkin Lecture Fund, ...	12,050.00	
	Charles Haven Goodwin Scholarship Fund (additional), ...	500.00	
	F. B. Greenough Fund for Surgical Research (additional), ...	500.00	
	Hughes Loan Fund, ...	500.00	
	Jackson Professorship of Clinical Medicine Fund (additional), ...	12,500.00	
	Bertram Kimball Fund, ...	25,000.00	
	Markoe Scholarship Fund, ...	5,000.00	
	Robert Treat Paine Fund (additional), ...	374.21	
	George Foster Peabody Scholarship Fund, . . .	4,800.00	
	Henry L. Pierce Residuary Bequest (additional), .	45,000.00	
	Proctor Fund for the Study of Chronic Diseases, . .	50,000.00	
	Professorship of Hygiene Fund (additional), ...	20,968.66	
	Nelson Robinson Jr. Endowment Fund (additional),	200,000.00	
	John D. Rockefeller Gift (additional), ...	527,450.70	
	Herbert Schurz Memorial Free Bed Fund, ...	3,000.00	
	Mary R. Searle Fund, ...	1,928.75	
	Shattuck Professorship of Pathological Anatomy Fund (additional), ...	12,500.00	
	Dunlap Smith Scholarship Fund, ...	4,700.00	
	James Stillman Professorship of Comparative Anatomy Fund, ...	100,000.00	
	Wales Professorship of the Sanskrit Language Fund,	40,000.00	
	David Ames Wells Fund (additional), ...	6,490.15	
	Mary L. Whitney Scholarship Fund, ...	7,798.63	1,340,876.28
	SALES, ETC., GENERAL INVESTMENTS.		
$128,000	Walter Baker & Co. Limited 4½'s of 1903, called and paid off at par, ...	$128,000.00	
100,000	Baltimore & Ohio R. R. Conv. Deb. 4's of 1911, ...	110,750.00	
23,600	Burl. & Mo. River (Neb.) R. R. non. ex. 6's, called and paid off at par, ...	23,600.00	
2,000	Chicago, Burl. & Quincy R. R. 3½'s of 1949, .	1,990.00	
44,500	Eastern R. R. 1st M. 6's of 1906, ...	48,505.00	
9,000	Fort Scott, South Eastern & Memphis R. R. 1st M. 7's, called and paid off at 105, . . .	9,450.00	
	Amounts carried forward, ...	$322,295.00	$3,264,951.77

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, ...		$5,842,112.97

SPECIAL INVESTMENTS (*continued*).

Property received for the **Dunlap Smith** Scholarship Fund.		
$5,000 Metropolitan West Side Elevated R. R. Extension M. 4's of 1938, ...		4,700.00
Property received from the estate of Mrs. **Mary R. Searle.**		
10 shares American Express Co., ...		1,928.75
Property received for the **Wales** Professorship of Sanskrit Fund.		
Estate Nos. 63 and 65 Cornhill, Boston, ...		40,000.00
Property received for the **Mary L. Whitney** Scholarship Fund.		
$1,300 City of Laramie 10–30, 6% Funding Bonds,	$1,300.00	
Deposit in Winchendon Savings Bank, ...	6,498.63	7,798.63
Property Received for the **Eaton** Professorship of the Science of Government Fund.		
Mortgages on Real Estate in New York City, ...		84,000.00
Property received for the **David Ames Wells** Fund.		
One-half undivided share of Estate Nos. 101 and 102 Pineapple Street, Brooklyn, New York, valued at		2,500.00

Amount carried forward, ...		$5,483,040.35

RECEIPTS EXCLUSIVE OF INCOME (*continued*).

Amounts brought forward, . . .	$822,295.00	$3,264,951.77
SALES, ETC., GENERAL INVESTMENTS (*continued*).		
46,500 Pennsylvania R. R. Conv. 3½'s of 1912, exchanged for 664 2/7 shares of Pennsylvania R. R. Stock, ...	46,523.00	
3,000 Pennsylvania Company 3½'s of 1916, called and paid off at par, ...	3,000.00	
400,000 United States 4's of 1925, ...	547,912.00	
500 shares New York Central & Hudson River R.R.,	69,187.50	
2/7 share Pennsylvania R.R., ...	19.29	
11 rights " "	3.45	
187 " Merrimack Manufacturing Co., . . .	84.90	
Notes paid, ...	1,093,000.00	
Baring Bros. & Co., deposit withdrawn, ...	2,893.16	2,084,918.30
SALES, ETC., SPECIAL INVESTMENTS.		
Sale of Investments of **Price Greenleaf** Fund.		
$2,000 Burl. & Missouri River (Nebraska) R. R. Non Ex. 6's, called and paid off at par, . .	$2,000.00	
7,500 Pennsylvania R. R. Conv. 3½'s of 1912, exchanged for 107 1/7 shares of Pennsylvania R. R. Stock, ...	7,500.00	
12,200 Rutland R. R. 6's of 1902, paid off at par, . .	12,200.00	
1/7 share Pennsyvania R. R., ...	9.64	
707 rights " "	221.82	
50,000 Note of Massachusetts Cotton Mills, ...	50,000.00	71,931.46
Sale of investments of **David Ames Wells** Fund.		
$1,000 The Electric Corporation 7's of 1992, . . .	$974.60	
10 shares " " Stock, ...	.40	975.00
Sale of investments of the Professorship of Hygiene Fund.		
11 shares Atchison, Topeka & Santa Fè R. R., preferred, ...	$1,078.54	
33 shares Union Pacific R. R., preferred, . . .	3,040.12	
Deposit in Franklin Savings Bank, withdrawn, . .	1,054.69	
" Provident Institutions for Savings, withdr.,	1,210.18	
" Suffolk Savings Bank, withdrawn, ...	1,585.13	7,968.66
Sale of Investments of **Mary L. Whitney** Scholarship Fund.		
$1,300 City of Laramie 10–30, 6% Funding Bonds,	$1,310.56	
Deposit in Winchendon Savings Bank, withdrawn, . .	6,498.63	7,809.19
Sale of Investment of **Mary R. Searle** Fund.		
10 shares American Express Co., ...		1,928.75
Amount carried forward, ...		$5,440,483.13

of the Treasurer of Harvard College,
July 31, 1903.

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, ...	**$5,483,040.35**
Amount carried forward, ...	**$5,483,040.35**

RECEIPTS EXCLUSIVE OF INCOME (*continued*).

Amount brought forward, ...		$5,440,483.13
SALES, ETC., SPECIAL INVESTMENTS (*continued*).		
Sale of investment of **Calvin** and **Lucy Ellis** Fund.		
Undivided half of No. 26 India Wharf, Boston, ...		5,500.00
Sale of Investment of **Calvin** and **Lucy Ellis** Aid Fund.		
Undivided half of No. 26 India Wharf, Boston, ...		5,500.00
Sale of Investment of **Charles L. Hancock** Fund.		
Lot No. 59 Fifth Street, Chelsea, Mass., ...		300.00
Sale of Investment of **Pennoyer** Scholarship Fund.		
Asten's Farm, Pulham, Norfolk, England, ...	$4,029.52	
Less Baring Bros. & Co.'s commission, ...	40.30	3,989.22
Received on account of Woodland Hill Fund.		
3079 square feet of land in West Roxbury, taken by the City of Boston for widening Walter Street, . .	$4,827.00	
Easement in land in West Roxbury, taken by the Metropolitan Sewer Commission, ...	10,000.00	14,827.00
Note held for **James Barr Ames** Prize Fund, paid in part, . .		200.00
SUNDRIES.		
Harvard Dining Association, to reduce debt, ...	$2,100.00	
Randall Hall Association, to reduce debt, ...	600.00	
Premiums on Bonds, repaid in part, ...	11,238.03	
Advances for accrued interest and expenses on bonds and notes, repaid, ...	10,358.75	
Advances to School of Veterinary Medicine, repaid in full from Insurance and Guaranty Fund, ...	14,114.90	
Advances to **Calvin** and **Lucy Ellis** real estate, repaid, ...	63.37	
Loans to Students, repaid, ...	2,527.74	
Sundry repayments, ...	553.19	
Special deposit, to be repaid, ...	1,000.00	42,555.98
Amount carried forward, ...		$5,513,355.33

of the Treasurer of Harvard College,
July 31, 1903.

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, ...	$5,483,040.35
Amount carried forward, ...	$5,483,040.35

General Statement of Receipts and Disbursements for the year ending

RECEIPTS EXCLUSIVE OF INCOME (*continued*).

Amount brought forward, ...		**$5,513,355.33**
Bursar's Sundry Accounts.		
Receipts during the year.		
On account of Harvard Dining Association, .	**$193,771.77**	
" Randall Hall Association, . .	**103,518.76**	
On Sundry accounts, ...	**179,134.44**	**476,424.97**
Balance, August 1, 1902.		
Cash in Old Boston National Bank, ...	**$96,114.57**	
" National Union Bank, ...	**11,592.73**	
" City Trust Co., ...	**1,056.02**	
" hands of Charles F. Mason, Bursar, . . .	**16,975.62**	
Term Bills due in October, 1902, ...	**238,881.23**	
" overdue, ...	**7,765.25**	**372,385.42**
Total, ...		**$6,362,165.72**

of the Treasurer of Harvard College,
July 31, 1903.

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, ...		$5,483,040.35
Bursar's Sundry Accounts.		
Payments during the year.		
On account of **Harvard** Dining Association, .	$196,714.85	
" **Randall** Hall Association, . .	101,079.92	
On sundry accounts, ...	181,071.03	478,865.80
Balance, July 31, 1903.		
Cash in Adams Trust Co., ...	$47,260.22	
" City Trust Co., ...	3,557.44	
" Old Boston National Bank, ...	13,922.86	
" National Union Bank, ...	62,090.35	
Term Bills due in October, 1903, ...	241,773.03	
" overdue, ...	10,147.50	
Cash in hands of Charles F. Mason, Bursar, . . .	21,508.17	400,259.57
Total, ...		$6,362,165.72

The following Account exhibits the State of the Property, as entered upon the Treasurer's Books, July 31, 1903.

Separate Investments, as stated in detail on pages 3, 4, 5 and 6 of this report, consisting of		
Railroad Bonds,	$314,066.11	
Sundry Bonds,	355,167.11	
Railroad Stocks,	327,035.59	
Real Estate Trust Stocks,	30,703.75	
Sundry Stocks,	9,550.00	
University Houses and Lands,	519,337.04	
Bussey Real Estate,	392,710.18	
Other Real Estate,	145,205.30	
Mortgages and Notes,	139,500.00	
Deposits in Massachusetts Hospital Life Ins. Co.,	21,225.00	
Cash in City Trust Co.,	3,523.01	$2,258,028.09
And "General Investments," as follows: —		
Mortgages and Notes.		
Mortgages,	$225,000.00	
Boston Manufacturing Co.'s Notes,	75,000.00	
Boott Cotton Mills' Note,	100,000.00	
Chicago, Burlington & Quincy R. R. Co.'s Note,	200,000.00	
Cocheco Manufacturing Co.'s Notes,	100,000.00	
Edison Electric Illuminating Co.'s Notes,	200,000.00	
Fitchburg R. R. Co.'s Note,	50,000.00	
Manchester Cotton Mills' Note,	50,000.00	
Massachusetts Cotton Mills' Note,	50,000.00	
Merrimack Manufacturing Co.'s Notes,	100,000.00	
Personal Notes, with collateral,	509,000.00	$1,659,000.00
Railroad Bonds.		
$100,000 Baltimore & Ohio 1st M. 4's of 1948,	$96,625.00	
100,000 Baltimore & Ohio (S. W. Division) 1st M. 3½'s of 1925,	89,750.00	
100,000 Baltimore & Ohio (Pittsburg, Lake Erie & West Virginia System) Ref. M. 4's of 1941,	99,250.00	
125,000 Bangor & Aroostook Cons. Ref. M. 4's of 1951,	118,750.00	
266,800 Burl. & Mo. R. in Nebr. non ex. 6's,	270,449.37	
100,000 Chicago & Alton 4% Coll. Notes of 1907,	98,350.00	
444,000 Chicago, Burl. & Quincy 3½'s of 1949,	457,624.89	
100,000 Chicago & No. Western Gen. M. 3½'s of 1987,	100,994.34	
100,000 Chicago & No. Western (Madison Extension) 1st M. 7's of 1911,	113,519.20	
100,000 Chicago, Rock Island & Pacific Gen. M. 4's of 1988,	106,683.88	
Amounts carried forward,	$1,551,996.68	$3,917,028.09

	Amounts brought forward, . .	$1,551,996.68	$3,917,023.09
Railroad Bonds (*continued*).			
$100,000	Chicago Terminal Transfer 1st M. 4's of 1947, ...	95,772.50	
178,500	Eastern, 1st M. 6's of 1906, ...	179,586.58	
£19,600	" " " Sterling of 1906,	95,383.40	
$51,000	Fort Scott, So. E. & Mem. 1st M. 7's, .	49,658.69	
100,000	Indiana, Ill. & Iowa 1st M. 4's of 1950,	96,500.00	
142,000	Kansas City, Fort Scott & Memphis Cons. M. 6's of 1928, ...	174,859.20	
114,000	Kansas City, Memphis & Birmingham (assented) Income 5's of 1934, . . .	103,500.00	
300,000	Long Island Unified M. 4's of 1949, . .	283,257.50	
200,000	Louisville & Jeffersonville Bridge Co. 1st M. 4's of 1945, ...	191,000.00	
100,000	Massachusetts Electric Companies 4½% Gold Coupon Notes of 1906, ...	98,000.00	
100,000	Metrop. West Side Elevated 4's of 1938,	91,746.25	
100,000	" " " Ext. M. 4's of 1938, ...	97,000.00	
100,000	Minneapolis Union 1st M. 5's of 1922, .	102,530.15	
300,000	New York Central & H. R. (L. S. & M. S. Coll.) 3½'s of 1998, ...	295,964.40	
200,000	New York, Ontario & Western Ref. M. 4's of 1992, ...	210,312.19	
343,000	Northern Pacific–Great Northern Joint 4's (C. B. & Q. Coll.) of 1921, . . .	164,325.92	
100,000	Oregon Short Line Cons. 1st M. 5's of 1946, ...	117,929.53	
97,000	Pennsylvania Co. 3½'s of 1916, ...	94,875.00	
100,000	Rutland Car Trust 4½'s of 1905, ...	100,540.00	
100,000	Schenectady 1st M. 4½'s of 1941, . . .	104,935.90	
100,000	St. Louis & San Francisco Ref. M. 4's of 1951, ...	97,125.00	
100,000	Second Ave. (N. Y.) Con. M. 5's of 1948,	117,763.30	
200,000	Terminal R. R. Association of St. Louis Gen. M. Ref. 4's of 1953, ...	200,000.00	
200,000	Third Avenue (N. Y.) 1st Consol. M. 4's of 2000, ...	202,382.41	
400,000	Union Pacific 1st M. & L. G. 4's of 1947,	353,114.75	5,270,059.35
Sundry Bonds.			
$200,000	American Bell Tel. Co. 4's of 1908, . .	$202,541.64	
200,000	American Tel. & Tel. Co. 4's of 1929, .	196,000.00	
145,000	Broadway Realty Co. Purchase money 1st M. 5's of 1926, ...	156,368.02	
100,000	Chicago Edison Co. 1st M. 5's of 1926, .	106,679.20	
250,000	Chicago Junction Railways and Union Stock Yards Coll. Trust 5's of 1915, .	250,241.75	
	Amounts carried forward, . . .	$911,830.61	$9,187,082.44

Amounts brought forward,	$911,830.61	$9,187,082.44
Sundry Bonds (*continued*).		
$100,000 Chicago Junction Railways and Union Stock Yards 4's of 1940,	98,500.00	
100,000 Metrop. Tel. & Tel. Co. 1st M. 5's of 1918,	99,500.00	
100,000 Montreal Light, Heat and Power Co. 1st M. Coll. Tr. 4½'s of 1932,	100,949.99	
100,000 Municipal Gas & Electric Co. of Rochester, N. Y., 1st M. 4½'s of 1942,	100,000.00	
100,000 New England Tel. & Tel. Co. 6's of 1906,	100,890.60	
100,000 " " " 5's of 1916,	112,235.28	
100,000 St. Louis National Stock Yards Co. 1st M. 4's of 1930,	99,500.00	1,623,406.48
Railroad Stocks.		
500 shares Chicago & No. Western, common,	$82,562.50	
1225 " N. Y. Central & Hud. River,	64,674.87	
500 " New York, New Haven & Hartford,	93,375.00	
5771 " Pennsylvania,	376,937.80	617,550.17
Manufacturing and Telephone Stocks.		
12 shares Amoskeag Manufacturing Co.,	$3,654.00	
187 " Merrimack " "	18,615.10	
24 " Pacific Mills,	16,668.29	
1000 " American Tel. & Tel. Co.,	155,407.25	194,344.64
Real Estate Trust Stocks.		
1000 shares Essex Street Trust,	$100,000.00	
1000 " Barristers Hall Trust,	92,766.00	
1089 " Paddock Building Trust,	104,363.72	
750 " Kimball Building Trust (10% paid),	7,500.00	
1000 " Post Office Square Building Trust,	103,000.00	407,629.72
Real Estate.		
Adams Estate, Washington Street, Boston,	$250,000.00	
Amory Estate, Franklin Street, Boston,	165,615.81	
Estate, Haymarket Square, Boston,	58,913.52	
Gerrish Block, Blackstone and North Streets, Boston,	192,875.75	
Gray Estate, Washington Street, Boston,	869,044.51	
Hayward Estate, Washington Street, Boston,	586,361.88	
Lowell Estate, Washington Street, Boston,	464,368.91	
Townsend Estate, Hawkins Street, Boston,	44,569.49	
Webb Estate, Washington Street, Boston,	164,604.79	2,796,354.66
Sundries.		
Advances to Bussey Trust,	$59,068.11	
" Medical School Undertaking,	485,763.24	
" Observatory,	3,362.84	
" Peabody Museum of American Archaeology and Ethnology,	3,123.51	
Amounts carried forward,	$551,317.70	$14,826,368.11

Amounts brought forward,	$551,317.70	$14,826,368.11
Sundries (*continued*).		
Advances to Botanic Department,	6,897.98	
“ Harvard Dining Association,	44,339.16	
“ Randall Hall Association,	33,702.27	
“ Classical Publication Fund of the Class of 1856,	615.72	
“ Cowdin Real Estate,	2,152.94	
“ Sundry Accounts,	1,391.26	
	$640,417.03	
Term bills due in October, 1903,	241,773.03	
“ overdue,	10,147.50	892,337.56
Cash in Adams Trust Co.,	$47,260.22	
“ City Trust Co.,	34.43	
“ Old Boston National Bank,	13,922.86	
“ National Union Bank,	62,090.35	
“ hands of Charles F. Mason, Bursar,	21,508.17	144,816.03
Total,		$15,863,521.70

The foregoing Property represents the following Funds and Balances, and is answerable for the same.*

Principal, Aug. 1, 1902.	UNIVERSITY FUNDS.		Principal, July 31, 1903.
$4,950.00	**Andrew Bigelow** (1898), ...		$4,950.00
5,000.00	**Stanton Blake** (1899), ...		5,000.00
4,771.33	**Charlotte F. Blanchard** (1891), .		4,771.33
5,250.00	**Samuel D. Bradford** (1866), . .		5,250.00
12,500.00	**John W. Carter** (1898), ...		12,500.00
154.91	**Thomas Cotton** (1727), ...		154.72
22,000.00	**John Cowdin** (1888), ...		22,000.00
115,966.56	**George B. Dorr** (1882), ...		115,966.56
48,458.50	**George Draper** (1892), ...		48,458.50
56,500.00	**R. H. Eddy** (1901), ...		56,787.00
101,225.49	**Harvard Ellis** (1895), ...		101,225.49
5,322.09	**John Davis Williams French** (1901),		5,322.09
20,571.18	**Gore** (1834), ...		20,571.18
25,000.00	**John C. Gray** (1881), ...		25,000.00
20,000.00	**Walter Hastings** (1888), ...		20,000.00
5,000.00	**George Baxter Hyde** (1895), . .		5,000.00
132,288.30	Insurance and Guaranty (1860), . . .		91,885.23
16,871.63	**Leonard Jarvis** (1859), ...		16,871.63
10,000.00	**Henry P. Kidder** (1894), ...		10,000.00
10,000.00	**Joseph Lee** (1802), ...		10,000.00
10,000.00	**Theodore Lyman** (1898), ...		10,000.00
81,950.54	**Henry T. Morgan** (1883), ...		81,950.54
15,750.00	**Israel Munson** (1844), ...		15,750.00
113,817.44	**Francis E. Parker** (1886), ...		113,817.44
30,000.00	**William Perkins** (1888), ...		30,000.00
50,814.19	**Henry L. Pierce** (1898), ...		50,475.41
164,780.10	**Henry L. Pierce** (Residuary) (1898),		
	Total received, ...	$798,000.00	
	Appropriated for **Pierce** Hall, ...	$242,525.04	
	Appropriated for the Medical School Undertaking,	350,000.00	
		$592,525.04	205,474.96
63,671.55	President's (1883), ...		63,598.41
364,358.75	Retiring Allowance (1879), ...		366,416.47
23,370.03	**John L. Russell** (1889), ...		23,370.03
	Mary R. Searle (1903), ...		1,902.61
46,913.13	**Isaac Sweetser** (1894), ...		46,913.13
5,000.00	**Seth Turner** (1883), ...		5,000.00
50,000.00	**Henry Villard** (1902), ...		50,000.00
100,000.00	**William F. Weld** (1893), ...		100,000.00
$1,742,255.72	. . Amounts carried forward, ...		$1,746,382.73

* The dates of the establishment of the Funds are printed after their titles.

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$1,742,255.72	. . Amounts brought forward, ...		$1,746,882.78
	*COLLEGE FUNDS.		
8,944.63	**John W. P. Abbot** (1874), . . .	$9,363.26	
27,748.64	**Alford** Professorship (1765), . . .	27,748.64	
6,230.00	**Daniel Austin** (1879), ...	6,230.00	
	Robert Charles Billings, for **Gray** Herbarium (1903), ...	15,000.00	
1,050.00	**John A. Blanchard** (1873), . .	1,050.00	
39,780.00	Botanic Department (1880), ...	39,780.00	
28,337.40	**Boylston** Professorship (1772), . .	28,337.40	
11,146.01	**Francis James Child** Mem. (1897),	11,224.29	
7,105.12	Classical Publ. F'd of **Class of 1856** (1888), ...	7,105.12	
150,445.04	Class Subscription (1870), ...	150,445.04	
	Cryptogamic Herbarium (balance), .	465.43	
57,792.30	**T. Jefferson Coolidge** Fund for Research in Physics, ...	58,245.94	
3,400.54	**Paul Dudley** (1751), ...	3,459.71	
	Eaton Professorship (1903), . . .	101,414.59	
21,619.50	**Eliot** Professorship (1814), ...	21,619.50	
10,000.00	**Eliot** " (**Jon. Phillips'** gift) (1854), ...	10,000.00	
3,500.01	**Erving** Professorship (1791), . . .	3,500.01	
35,990.99	**Fisher** " (1834), . . .	35,990.99	
394.02	**Henry Flynt** (1760), ...	412.46	
16,240.38	Fund for Permanent Tutors (1796),	16,240.38	
1,033.57	Fund for Religious Services (1887), .	1,033.57	
	Godkin Lecture (1903), ...	12,229.57	
6,324.44	Gospel Church (1868), ...	6,472.42	
2,360.30	**Gray** Herbarium (balance), ...	1,900.48	
32,511.00	**Asa Gray** Memorial (1898), . . .	32,511.00	
21,628.01	**Asa Gray** Professorship of Systematic Botany (1897), ...	21,595.16	
195,039.84	**Gurney** (1888), ...	195,417.71	
15,124.00	**Harvard** Oriental Series (1899), . .	15,066.80	
20,655.91	Herbarium (1865), ...	20,655.91	
20,217.08	**Hersey** Professorship (1772), . . .	20,217.08	
21,744.18	**Hersey** Professorship (**Thomas Lee's** gift) (1856), ...	21,744.18	
34,517.60	**Hollis** Professorship of Divinity (1726),	34,517.60	
3,747.33	**Hollis** " of Mathematics (1713),	3,747.33	
5,675.11	**Ingersoll** Lecture (1894), ...	5,940.70	
3,371.62	**Jefferson** Physical Lab'y (balance),	2,177.53	
10,070.05	Lectures on Political Economy (1889),	10,541.32	
15,796.97	**Lee** Fund for Reading (1863), . . .	15,796.97	
107,178.26	**Henry Lee** Professorship (1900), .	108,344.19	
$2,688,975.57	. . Amounts carried forward, . . .	$1,077,542.28	$1,746,882.78

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* Including some actually used in the Graduate School.

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$2,688,975.57	. . Amounts brought forward, . . .	$1,077,542.28	$1,746,882.73
8,367.18	**Joseph Lovering** (1891), ...	7,968.32	
66,407.31	**Lowell Fund for a Botanic Garden** (1882) (formerly Professorship of Natural History, 1805), ...	66,407.31	
43,062.93	**McLean** Professorship (1834), . .	43,062.93	
22,175.86	**William B. Noble** Lectures (1898),	22,626.20	
14,063.32	**Daniel H. Peirce** (1876), ...	14,129.13	
21,000.00	**Perkins** Professorship (1841), . .	21,000.00	
31,500.00	**Jonathan Phillips** (1861), . . .	31,500.00	
75,000.00	Physical Laboratory Endowm't (1881),	75,000.00	
25,020.19	**Plummer** Professorship (1854), . .	25,020.19	
52,500.00	**Pope** “ (1868), . .	52,500.00	
190,851.69	Professorship of Hygiene (1899), . .	219,858.24	
305,086.88	**Nelson Robinson, Jr.** (1899), .	510,000.00	
56,441.25	**Rumford** Professorship (1819), . .	56,368.73	
2,000.00	**John L. Russell** (1889), ...	2,000.00	
60,494.93	**Gurdon Saltonstall** (1901), . .	60,000.00	
4,364.73	**George William Sawin** (1890),	4,425.01	
1,734.26	Schol. & Benef. money returned (bal.),		
1,030.94	**Barthold Schlesinger** (1901), .	62.30	
23,139.83	**Smith** Professorship (1816), . . .	23,139.83	
12,811.14	**Josiah Stickney** (1899), ...	12,811.14	
16,295.84	**John E. Thayer** (1885), ...	16,483.68	
1,174.81	**Elizabeth Torrey** (1896), . . .	1,193.45	
10,590.34	**Henry Warren Torrey** (1890), .	11,142.38	
100,855.67	**Unknown** Memorial (1898), . . .	100,918.75	
	Wales Professorship (1903), . . .	40,000.00	
17,449.24	**Samuel Ward** (1680), ...	15,500.00	
6,779.68	**Cyrus M. Warren** (1893), . . .	6,577.94	
121,526.76	**Henry C. Warren** (1899), . . .	121,229.30	
5,344.14	**Sylvester Waterhouse** (1896), .	5,594.24	
50,000.00	**Increase S. Wheeler** (1889), . .	50,000.00	
968.47	**Chauncey Wright** (1884), . . .	989.59	
2,857.91	Gifts for Books, Prints, Casts, etc., for Dept. of Architec. (bal.),		
1,797.71	“ Cases, etc., at Botanic Garden (balance), ...	1,436.91	
281.37	“ Classical Library (balance),	174.61	
322.52	“ Collections for a Germanic Museum (balance), . . .	322.52	
	“ Engineering Department, Electrical Apparatus (bal.), .	1,770.30	
	“ The Ethics of the Social Questions (bal.), ...	2,511.78	
1,438.52	“ Land in New Hampshire (bal.),		
53.15	“ Physical Research “	39.15	
	“ Plantation of Shrubs, etc. “	3,787.39	
$4,048,764.14	. . Amounts carried forward, . . .	$2,705,093.60	$1,746,882.73

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$4,043,764.14	. . Amounts brought forward,	$2,705,093.60	$1,746,382.73
3,460.53	Gifts for Salaries (balance),	1,516.95	
1,352.70	" Sanskrit Department (bal.),	99.57	
16,932.57	" Semitic Collection (balance),	12,940.82	
1,106.20	" " Library, "	1,009.41	
1,941.49	" Sugar-cane investigation, etc. (balance),	990.47	
2,043.02	Sundry Gifts (unexpended balances),	1,971.53	
	FELLOWSHIP FUNDS.		
	George Wales Dillaway (1903),	5,048.77	
11,159.41	**Ozias Goodwin** Memorial (1889),	11,231.65	
10,836.85	**Harris** (1868),	10,844.02	
	Indic Philology (balance),	800.00	
10,927.81	**John Thornton Kirkland** (1871),	10,989.24	
11,540.59	**Henry Lee** Memorial (1889),	11,630.71	
14,100.00	**Charles Eliot Norton** (1901),	14,400.00	
12,656.14	**Robert Treat Paine** (1887),	12,748.44	
56,533.87	**John Parker** (1873),	57,079.66	
31,959.15	**Rogers** (1869),	32,729.83	
11,389.24	**Henry Bromfield Rogers** Memorial (1889),	11,472.24	
125.00	South End House (balance),		
11,807.05	**John Tyndall** (1885),	12,359.62	
11,400.03	**James Walker** (1881),	11,433.55	
22,645.03	**Whiting** (1896),	22,804.82	
	SCHOLARSHIP FUNDS.		
3,725.29	**Abbot** (1852),	3,799.62	
1,889.81	**Alford** (1785),	1,978.26	
5,377.03	**Bartlett** (1881),	5,378.67	
5,703.00	**Bassett** (1876),	5,699.90	
12,959.87	**Bigelow** (1865),	13,066.40	
2,199.91	**Borden** (1896),	2,302.87	
112,985.50	**Bowditch** (1864),	113,573.22	
2,668.19	**Bright** (balance),	2,896.39	
3,782.93	**Browne** (1687),	3,859.97	
5,163.11	**Morey Willard Buckminster** (1898),	5,204.74	
32,843.73	**Burr** (1895),	33,180.83	
6,108.63	**Ruluff S. Choate** (1884),	6,119.53	
8,309.11	**Class of 1802** (1870),	8,272.97	
3,161.67	" **1814** (1853),	3,184.65	
6,471.15	" **1815 (Kirkland)** (1852),	6,523.99	
4,555.91	" **1817** (1852),	4,544.13	
3,475.18	" **1828** (1882),	3,487.81	
4,856.92	" **1835** (1853),	4,909.23	
5,134.03	" **1841** (1871),	5,107.64	
5,133.00	" **1852 (Dana)** (1876),	5,106.56	
$4,524,184.79	. . Amounts carried forward,	$3,186,892.28	$1,746,382.73

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$4,524,184.79	. . Amounts brought forward, . . .	$3,186,892.28	$1,746,382.73
15,509.52	**Class of 1856** (1885), ...	15,735.39	
4,669.81	" **1867** (1886), ...	4,713.37	
5,030.00	" **1877** (1902), ...	5,065.40	
5,312.00	" **1883** (1900), ...	5,362.00	
11,853.25	**Crowninshield** (1877), ...	11,882.97	
600.00	**W. H. Cudworth** (balance), . .	600.00	
5,425.39	**Francis H. Cummings** (1898), .	5,679.28	
5,530.80	**Geo.** and **Martha Derby** (1881),	5,539.65	
4,970.03	**Julius Dexter** (1892), ...	5,027.63	
2,756.65	**O. W. Doe** (1893), ...	2,785.68	
5,480.45	**W. S. Eliot** (1875), ...	5,486.91	
40,355.01	**Joseph Eveleth** (1896), ...	40,856.94	
2,126.46	Fall River (1893), ...	2,145.96	
6,298.75	**Farrar** (1873), ...	6,260.20	
11,280.61	**Richard Augustine Gambrill** (1890), ...	11,383.56	
7,081.23	**Charles Haven Goodwin** (1889),	7,618.47	
4,191.73	**Greene** (1863), ...	4,237.92	
400.00	**Price Greenleaf** (balance), . . .		
23,605.70	**William Hilton** (1897), ...	23,630.46	
10,020.02	**John Appleton Haven** (1902), .	10,088.96	
10,587.85	**Ebenezer Rockwood Hoar** (1895),	10,750.03	
6,248.49	**Levina Hoar** (1876), ...	6,290.90	
13,588.01	**Hodges** (1878), ...	13,614.36	
6,160.37	**Hollis** (1722), ...	6,223.66	
10,749.94	**Henry B. Humphrey** (1890), . .	10,878.04	
30,240.00	**C. L. Jones** (1901), ...	30,455.23	
10,323.77	**G. E. Lowell** (1886), ...	10,340.27	
	Markoe (1903), ...	5,117.00	
2,834.65	**Matthews** (balance), ...	2,728.51	
6,048.99	**Merrick** (1888), ...	6,107.08	
8,206.43	**Morey** (1868), ...	8,240.47	
5,730.68	**Lady Mowlson** (1643), ...	5,773.89	
5,550.54	**Howard Gardner Nichols** (1897),	5,610.33	
5,252.46	**Lucy Osgood** (1873), ...	5,498.25	
	George Foster Peabody (1902),	4,950.00	
6,524.03	**Pennoyer** (1670), ...	6,230.81	
4,254.50	**Perkins** (1869), ...	4,303.59	
1,490.97	**Wendell Phillips** Mem'l (1895),	1,527.41	
350.00	**Ricardo** Prize (balance), ...	350.00	
1,204.93	**Rodger** (1883), ...	1,111.32	
3,423.90	**Henry B. Rogers** (1859), ...	3,484.14	
5,643.93	**Edward Russell** (1877), ...	5,708.07	
5,512.27	**Sales** (1893), ...	5,603.57	
11,072.51	**Saltonstall** (1739), ...	11,107,39	
8,406.16	**Leverett Saltonstall** (1895), . .	8,474.56	
6,921.09	**Mary Saltonstall** (1730), ...	6,894.99	
$4,873,008.67	. . Amounts carried forward, . . .	$3,548,366.90	$1,746,382.73

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$4,873,008.67	. . Amounts brought forward, . . .	$3,548,366.90	$1,746,382.73
100.00	**James Savage** (balance), ...		
3,239.68	**Sever** (1868), ...	3,291.31	
10,872.50	**Sewall** (1696), ...	10,914.65	
48,838.85	**Shattuck** (1854), ...	49,224.51	
6,078.69	**Slade** (1877), ...	6,029.85	
	Dunlap Smith (1903), ...	4,700.00	
4,440.63	**Story** (1864), ...	4,473.47	
2,729.48	**Stoughton** (1701), ...	2,796.64	
2,287.72	**Swift** (1899), ...	2,394.80	
77,741.90	**Thayer** (1857), ...	78,380.23	
4,160.64	**Gorham Thomas** (1865), ...	4,205.37	
7,585.49	**Toppan** (1868), ...	7,640.47	
25,369.89	**Townsend** (1861), ...	25,640.54	
4,695.06	**Walcott** (1855), ...	4,848.13	
10,426.41	**Christopher M. Weld** (1899), .	10,514.35	
5,271.93	**Jacob Wendell** (1899), ...	5,318.66	
11,496.10	**Whiting** (1874), ...	11,667.45	
	Mary L. Whitney (1903), . . .	7,901.91	
	BENEFICIARY AND LOAN FUNDS.		
	Rebecca C. Ames (1903), . . .	50,403.46	
524.78	**Nathaniel Appleton** (1772), . .	549.35	
1,685.92	**Frank Bolles** Memorial (1894), .	1,764.82	
1,439.19	**William Brattle** (1717), ...	1,506.54	
937.09	**Thomas Danforth** (1724), . . .	980.94	
5,448.73	**Moses Day** (1880), ...	5,448.73	
374.83	**John Ellery** (1738), ...	392.38	
1,333.34	Exhibitions (1796), ...	1,333.34	
702.90	**Thomas Fitch** (1737), ...	735.80	
404.05	**Ephraim Flynt** (1723), ...	422.96	
140.50	**Henry Flynt** (1760), ...	147.05	
420.06	**Henry Gibbs** (1722), ...	439.72	
2,782.55	**John Glover** (1653), ...	2,912.79	
7,786.09	**Price Greenleaf** Aid (balance), .	10,321.53	
337.33	**Edward Holyoke** (1743), . . .	342.80	
2,226.08	**Robert Keayne** (1659), ...	2,330.26	
	Bertram Kimball (1903), . . .	25,195.02	
921.29	**Mary Lindall** (1812), ...	964.39	
5,460.64	**Susan B. Lyman** (1899), ...	5,716.22	
196.78	**Anne Mills** (1725), ...	206.00	
10,855.32	**Munroe** (1880), ...	10,855.32	
2,008.12	**Palfrey** Exhibition (1821), ...	2,022.09	
4,408.02	**Dr. A. P. Peabody** Memorial (1896),	4,617.36	
187.42	**Joseph Sewall** (1765), ...	196.17	
14,349.15	**Alexander W. Thayer** (1899), .	14,540.68	
11,155.10	**Quincy Tufts** (1877), ...	11,155.10	
253.03	**Benjamin Wadsworth** (1737), .	264.87	
$5,174,681.95	. . Amounts carried forward, . . .	$3,944,074.93	$1,746,382.73

Principal, Aug 1, 1902.		Principal, July 31, 1903.	
$5,174,681.95	. . Amounts brought forward, . . .	$3,944,074.93	$1,746,382.73
	PRIZE FUNDS.		
1,426.43	**James Gordon Bennett** (1893), .	1,493.17	
29,414.82	**Bowdoin** Prizes for Dissertations (1791), ...	30,191.44	
3,591.62	**Boylston** Prizes for Elocution (1817),	3,504.73	
5,195.21	**Coolidge** Debating (1899), ...	5,238.34	
100.00	**Dante** (balance), ...	100.00	
1,899.14	**Edward Hopkins** Gift for "Deturs" (1718) (balance), ...	1,954.49	
1,065.84	**Sales** (1892), ...	1,115.73	
2,622.69	**John O. Sargent** (1889), ...	2,545.45	
7,000.00	**George B. Sohier** (1890), ...	7,000.00	
3,233.20	**Charles Sumner** (1874), ...	3,384.51	
3,676.95	**Robert N. Toppan** (1894), . . .	3,699.03	
2,115.97	**Philip Washburn** (1899) , . . .	2,215.00	
93,306.66	**David A. Wells** (1901), ...	104,286.62	4,110,803.44
	LIBRARY FUNDS.		
2,122.60	**Bowditch** (1861), ...	$2,132.83	
166.17	**Bright** (balance), ...	133.80	
584.82	Fund of the **Class of 1851** (1899),	612.20	
575.84	" " " **1851** (**C. F. Dunbar's** Gift) (1899), ...	602.80	
27,758,74	**Edwin Conant** (1892), ...	27,744.03	
25,992.72	**Constantius** (1886), ...	25,953.22	
5,302.03	**Denny** (1875), ...	5,311.89	
5,299.73	**Farrar** (1871), ...	5,317.02	
3,187.68	**Haven** (1844), ...	3,207.43	
10,086.23	**Hayes** (1885), ...	10,049.01	
5,295.80	**Hayward** (1864), ...	5,244.23	
368.79	**R. M. Hodges** (balance), ...	578.02	
2,369.83	**Hollis** (1781), ...	2,371.89	
2,133.80	**Homer** (1871), ...	2,169.95	
500.00	**Jarvis** (1885), ...	500.00	
5,302.13	**Lane** (1863), ...	5,297.53	
26,269.29	**Lowell** (1881), ...	26,571.17	
60,520.35	**Minot** (1870), ...	60,478.15	
7,145.32	**Lucy Osgood** (1873), ...	7,150.89	
7,021.73	**Mary Osgood** (1860), ...	6,995.40	
3,949.25	**Sales** (1892), ...	3,951.97	
5,292.61	**Salisbury** (1858), ...	5,313.10	
20,180.15	**Sever** (1878), ...	20,089.13	
3,979.82	**Shapleigh** (1801), ...	3,981.56	
65.26	**George B. Sohier** (balance), . .	69.31	
10,717.38	Subscription for Library (1859), . .	10,576.94	
37,611.34	**Sumner** (1875), ...	37,605.05	
$5,609,129.89	. . Amounts carried forward, . . .	$280,008.52	$5,857,186.17

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$5,609,129.89	. . Amounts brought forward, . . .	$280,008.52	$5,857,186.17
5,091.66	**Kenneth Matheson Taylor** (1899),	5,081.17	
11,925.34	**Daniel Treadwell** (1885), . . .	11,925.34	
5,231.63	**Ichabod Tucker** (1875), ...	5,243.89	
15,910.44	**Walker** (1875), ...	15,871.24	
5,301.74	**Ward** (1858), ...	5,299.44	
247.74	**Waterston** Gift (balance), ...	259.35	
20,169.70	**J. Huntington Wolcott** (1891),	20,105.66	
100,000.00	**Eben Wright** (1883), ...	100,000.00	
2,048.87	Sundry Gifts (unexpended bals.), . .	1,447.10	
	Sundry balances, ...	149.03	445,390.74
	DIVINITY SCHOOL FUNDS.		
37,254.83	Divinity School (balance), ...	$22,727.90	
71,427.02	New Endowment (1879), ...	71,427.02	
17,000.00	**Oliver Ames** (1880), ...	17,000.00	
525.00	**Hannah C. Andrews** (1836), . .	525.00	
890.00	**Daniel Austin** (1880), ...	890.00	
1,000.00	**Adams Ayer** (1869), ...	1,000.00	
7,875.00	**Joseph Baker** (1876), ...	7,875.00	
2,057.18	Beneficiary money returned (balance),	174.10	
3,869.28	**Rushton Dashwood Burr** (1894),	4,050.35	
37,583.74	**Bussey** Professorship (1862), . .	37,583.74	
2,177.95	**Joshua Clapp** (1836), ...	2,177.95	
5,000.00	**Edwin Conant** (1892), ...	5,000.00	
20,280.38	**Dexter** Lectureship (1810), . . .	25,544.37	
48,510.57	**Frothingham** Professorship (1892),	50,780.89	
1,050.00	**Abraham W. Fuller** (1847), . .	1,050.00	
911.34	**Lewis Gould** (1852), ...	911.34	
721.73	**Louisa J. Hall** (1893), ...	754.85	
6,008.43	**Hancock** Professorship (1765), .	6,008.43	
76,885.81	**Charles L. Hancock** (1891), . .	76,885.81	
5,000.00	**Haven** (1898), ...	5,000.00	
1,050.00	**Samuel Hoar** (1857), ...	1,050.00	
10,000.00	**Henry P. Kidder** (1881), . . .	10,000.00	
9,184.69	**Henry Lienow** (1841), ...	9,184.69	
1,050.00	**Caroline Merriam** (1867), . . .	1,050.00	
16,015.81	**Parkman** Professorship (1814), .	16,015.81	
482.95	**John W. Quinby** (1888), ...	505.55	
1,000.00	**Abby Crocker Richmond** (1881),	1,000.00	
1,000.00	**John L. Russell** (1890), ...	1,000.00	
10,000.00	**William B. Spooner** (1890), . .	10,000.00	
40,000.00	**Thomas Tileston** of New York Endowment (1879), ...	40,000.00	
5,250.00	**Mary P. Townsend** (1861), . .	5,250.00	
2,100.00	**Winthrop Ward** (1862), ...	2,100.00	
54,345.73	**Winn** Professorship (1877), . . .	54,845.73	
	Gift for Divinity Hall Chapel alterations, ...	525.00	
$6,272,564.45	. . Amounts carried forward, . . .	$489,893.53	$6,302,576.91

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$6,272,564.45	. . Amounts brought forward, . . .	$489,893.53	$6,302,576.91
	SCHOLARSHIP AND BENEFICIARY FUNDS.		
13,069.65	**Abner W. Buttrick** (1880), . . .	13,231.33	
5,491.62	**Thomas Cary** (1820), ...	5,668.65	
2,702.31	**George Chapman** (1834), . . .	2,728.76	
4,429.41	**Joshua Clapp** (1839), ...	4,456.69	
14,849.94	**Jackson** Foundation (1835), . . .	14,958.26	
5,350.05	**J. Henry Kendall** (1863), . . .	5,400.43	
3,431.46	**Nancy Kendall** (1846), ...	3,452.03	
1,050.00	**William Pomroy** (1835), ...	1,050.00	540,839.68
	LAW SCHOOL FUNDS.		
205,360.56	Law School (balance), ...	$236,882.74	
4,150.62	**James Barr Ames** Prize (1898),	3,533.97	
65,840.47	**Bemis** Professorship (1879), . . .	67,921.78	
23,979.82	**Bussey** " (1862), . . .	23,979.82	
15,750.00	**Dane** " (1829), . . .	15,750.00	
	Hughes Loan (1903), ...	501.97	
47,021.25	Law School Book (1882), ...	47,021.25	
100,000.00	Law School Library (1898), ...	100,000.00	
8,340.81	**Royall** Professorship (1781), . . .	8,340.81	
1,327.77	Scholarship money returned (balance),	1,389.92	
94,994.97	**Weld** Professorship (1882), . . .	94,994.97	600,317.23
	LAWRENCE SCIENTIFIC SCHOOL FUNDS.		
101.40	**Edward Austin** Loans repaid (bal.),	$758.37	
30,686.85	**John B. Barringer** (1873), . . .	30,686.85	
5,592.83	**George A. Gardner** (1892), . .	5,579.93	
10,611.50	**Hennen Jennings** Scholarship (1898),	10,708.10	
61,536.43	**Abbott Lawrence** (1859), . . .	61,536.43	
50,375.00	**James Lawrence** (1865), ...	50,375.00	
33.00	**Lawrence** Scientific School Loans repaid (balance), ...	456.21	
40,805.73	Professorship of Engineering (1847),	40,805.73	
25,000.00	**Arthur Rotch** (1895), ...	25,000.00	
5,304.70	**Stuart Wadsworth Wheeler** (1898),	5,306.97	
	Lawrence Scientific School Association Scholarship (balance), . . .	50.00	231,263.59
	MUSEUM OF COMPARATIVE ZOÖLOGY FUNDS.		
34,370.78	Museum of Comparative Zoölogy (bal.),	$29,034.40	
297,933.10	**Agassiz** Memorial (1875), ...	297,933.10	
7,594.01	Teachers' and Pupils' (1875), . . .	7,594.01	
5,511.23	**Virginia Barret Gibbs** Scholarship (1892), ...	5,519.15	
$7,465,161.72	. . Amounts carried forward, . . .	$340,080.66	$7,674,997.41

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$7,465,161.72	. . Amounts brought forward, . . .	$340,080.66	$7,674,997.41
50,000.00	**Gray** Fund for Zoölogical Museum (1859), ...	50,000.00	
108,467.36	**Sturgis Hooper** (1865), ...	108,386.98	
7,740.66	**Humboldt** (1869), ...	7,740.66	
5,000.00	**Willard Peele Hunnewell** (1901),	5,000.00	
117,469.34	Permanent (1859), ...	117,469.34	628,677.59

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY FUNDS.

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
11,468.09	**Hemenway** Fellowship (1891), .	$11,579.79	
28,355.56	**Peabody** Building (1866), ...	28,355.56	
47,335.10	**Peabody** Collection (1866), . . .	47,335.10	
47,563.51	**Peabody** Professor (1866), . . .	47,529.77	
30,175.49	**Thaw** Fellowship (1890), ...	30,164.15	
10,795.03	**Henry C. Warren** Exploration (1899), ...	10,347.01	
5,000.00	**Susan Cornelia Warren** (1902),	5,000.00	
5,362.08	**Robert C. Winthrop** Scholarship (1895), ...	5,413.02	
21,024.18	**Huntington Frothingham Wolcott** (1891), ...	20,621.90	206,346.30

MEDICAL SCHOOL FUNDS.

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
60,042.31	Medical School (balance), ...	$46,173.58	
11,075.58	**Edward Austin** (Bacteriological Laboratory) (1899), ...	11,261.86	
25,512.68	**Edward M. Barringer** (1881), .	25,512.68	
6,246.61	**J. Ingersoll Bowditch** (1889), .	6,212.24	
2,768.71	**Boylston** Fund for Medical Books (1800), ...	2,563.14	
20,399.96	**John B. & Buckminster Brown** Endowment (1896), ...	20,854.68	
92,025.00	**Caroline Brewer Croft** (1899),	92,338.38	
378,550.19	**Calvin** and **Lucy Ellis** (1899), .	380,987.73	
101,702.24	**George Fabyan** (1896), ...	101,702.24	
1,836.08	**Samuel E. Fitz** (1884), ...	1,836.08	
2,116.56	**F. B. Greenough** (Surgical Research) (1901), ...	2,500.00	
19,192.65	**Jackson** Medical (1859), ...	19,192.65	
1,681.11	Medical Library (1872), ...	1,759.78	
52,900.33	**William O. Moseley** (1897), . .	52,900.33	
38,750.00	New Subscription (1888), ...	38,750.00	
9,335.94	**Dr. Ruppaner** (1897), ...	9,335.94	
50,000.00	**Geo. C. Shattuck** (1853), . . .	50,000.00	
5,918.66	Surgical Laboratory (1897), ...	5,681.98	
15,765.11	**Mary W. Swett** (1884), ...	15,765.11	
$8,856,737.84	. . Amounts carried forward, . . .	$885,328.40	$8,510,021.30

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$8,856,737.84	. . Amounts brought forward, . .	$885,328.40	$8,510,021.30
20,000.00	**Samuel W. Swett** (1884), . . .	20,000.00	
2,000.00	**Quincy Tufts** (1879), ...	2,000.00	
14,359.37	**Warren** Fund for Anatomical Museum (1848), ...	14,441.68	
41,920.00	**Charles Wilder** (1900), ...	41,872.00	
33,681.45	**Henry Willard Williams** (1893),	34,007.72	
1,455.77	Gifts for Pathological Dep't Library (balance), ...	923.62	
1,482.23	Sundry Gifts (unexpended balances),	2,890.50	
	FELLOWSHIP FUNDS.		
5,321.12	**Geo. Cheyne Shattuck** Memorial (1891), ...	5,345.14	
5,621.65	**Charles Eliot Ware** Memorial (1891), ...	5,659.76	
5,280.14	**John Ware** Memorial (1891), . .	5,302.25	
	SCHOLARSHIP FUNDS.		
5,146.42	**Lucius F. Billings** (1900), . . .	5,107.25	
5,833.06	**D. W. Cheever** (1889), ...	5,756.04	
3,162.46	**Cotting** Gift (1900), ...	3,135.44	
2,758.57	**Orlando W. Doe** (1893), ...	2,787.69	
152.63	**John Foster** income for Medical Students (balance), ...	61.05	
5,743.91	**Lewis** and **Harriet Hayden** (1894),	5,733.47	
6,320.63	**C. M. Jones** (1893), ...	6,466.45	
5,284.93	**Alfred Hosmer Linder** (1895),	5,332.27	
5,504.50	**Charles B. Porter** (1897), . . .	5,642.09	
4,557.74	**Charles Pratt Strong** (1894), .	4,671.05	
6,346.51	**Isaac Sweetser** (1892), ...	6,393.55	
5,283.01	**John Thompson Taylor** (1899),	5,250.26	
5,306.30	**Edward Wigglesworth** (1897), .	5,354.62	
	PRIZE FUNDS.		
3,540.50	**Boylston** (1803), ...	3,685.35	
6,507.73	**William H. Thorndike** (1895),	6,812.30	1,089,959.95
	MEDICAL SCHOOL UNDERTAKING FUNDS.		
93,610.00	**Robert C. Billings** (1900), . . .	$104,898.05	
	George Fabyan (addition of 1903),	25,375.40	
101,322.02	**George Higginson** Professorship (1902), ...	101,563.89	
12,500.00	**Jackson** Professorship (addition of 1902), ...	25,000.00	
354,200.00	**Henry L. Pierce** (1898), ...	370,776.56	
	Proctor (1903), ...	51,267.48	
$9,620,940.49	. . Amounts carried forward, . . .	$678,881.38	$9,599,981.25

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$9,620,940.49	Amounts brought forward,	$678,881.38	$9,599,981.25
312,463.29	**John D. Rockefeller** Gift (1902),	863,875.59	
25,300.00	**David Sears** Gift (1902),	126,629.80	
13,500.00	**Shattuck** Professorship (addition of 1902),	26,000.00	
	Stillman Professorship (1902),	104,484.98	
4,431.98	School of Comparative Medicine (1899),	4,639.40	
4,968.79	Gift for Pathological Laboratory,	5,201.34	
1,011.73	Gift for buildings,		1,809,712.49

DENTAL SCHOOL FUNDS.

32,024.51	Dental School (balance),	$29,899.71	
2,255.85	Dental School Endowment (1880),	2,255.85	
23,000.00	**Henry C. Warren** Endowment (1889),	23,000.00	
19,872.32	Gifts for Building (1892),	20,802.33	75,957.89

OBSERVATORY FUNDS.

50,380.51	Advancement of Astron. Science (1901),	$50,357.83	
20,054.91	Advancement of Astron. Science (1902),	20,641.14	
16,996.96	Anonymous Gift (1902),	11,018.16	
5,000.00	**Thomas G. Appleton** (1884),	5,000.00	
2,500.00	**J. Ingersoll Bowditch** (1889),	2,500.00	
200,000.00	**Uriah A. Boyden** (1887),	200,000.00	
	Draper Memorial (balance),	248.26	
2,000.00	**Charlotte Harris** (1877),	2,000.00	
45,000.00	**Haven** (1898),	45,000.00	
21,000.00	**James Hayward** (1866),	21,000.00	
50,000.00	Observatory Endowment (1882),	50,000.00	
50,000.00	**Paine** Professorship (1886),	50,000.00	
273,557.86	**Robert Treat Paine** (1886),	273,932.07	
110,293.88	**Edward B. Phillips** (1849),	110,293.88	
12,275.36	**Josiah Quincy** (1866),	12,849.83	
36,521.60	**David Sears** (1845),	37,376.21	
13,380.00	**Augustus Story** (1871),	13,380.00	
300.00	Gift for publishing lunar photographs,	132.96	905,730.34

BUSSEY INSTITUTION FUNDS.

26,841.11	**Bussey** Institution (balance),	$27,759.48	
10,079.85	Woodland Hill (1895),	22,607.97	50,367.45

ARNOLD ARBORETUM FUNDS.

116,555.00	**Arnold** Arboretum (1899),	$123,080.00	
159,329.27	**James Arnold** (1872),	159,702.10	
14,761.12	Arboretum Construction Gifts (bal.),	14,349.48	
22,110.30	**William L. Bradley** (1897),	22,703.59	319,785.17
$11,318,706.69	Amounts carried forward,		$12,761,534.59

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$11,318,706.69	. . Amounts brought forward, ...		$12,761,534.59
	OTHER FUNDS FOR SPECIAL PURPOSES.		
	PHILLIPS BROOKS HOUSE.		
10,506.66	**Phillips Brooks** House Endowment (1901), ...	$10,506.66	
10,596.32	**Ralph H. Shepard** (1900), . . .	10,969.65	
5,897.78	**Ralph H. Shepard** Memorial (1898),	6,178.81	
5,402.14	**John W.** and **Belinda L. Randall** (1897), ...	5,554.95	
	WILLIAM HAYES FOGG ART MUSEUM.		
642.90	**Fogg** Art Museum (balance), . . .	222.39	
50,000.00	**William Hayes Fogg** (1892). .	50,000.00	
17,054.32	**Gray** Fund for Engravings (1858),	16,458.39	
16,178.98	**William M. Prichard** (1898), .	16,738.33	
32,860.02	**John Witt Randall** (1892), . . .	33,264.40	
	STILLMAN INFIRMARY.		
9,857.70	**Stillman** Infirmary (balance), . .	7,715.17	
	Robert Charles Billings, for **Stillman** Infirmary (1903), . .	50,000.00	
5,328.63	Free Bed Fund of the **Class of 1868** (1898), ...	5,328.63	
539.38	Free Bed Fund for **Stillman** Infirmary (1900), ...	539.38	
	Herbert Schurz Memorial Free Bed (1903), ...	3,000.00	
2,645.64	**Henry P. Walcott** (1901), . . .	2,645.64	
	CLASS FUNDS.		
1,257.50	Fund of the **Class of 1834** (1887),	1,309.53	
7,366.43	“ “ “ **1844** (1896),	7,666.96	
3,725.00	“ “ “ **1853** (1887),	3,725.00	
	CONSTRUCTION GIFTS.		
5,148.73	Gifts for Additions to The Soldier's Field (1898), ...		
59,682.18	Gifts for Improvements and Additions to The Soldier's Field (1901), . .	48,219.56	
421.74	Brighton Marsh Fence (balance), . .	421.74	
2,117.58	**Emerson** Hall, “ . .	117,013.40	
8,421.91	Semitic Building, “ . .	1,456.01	
3,032.00	**John Simpkins** Hall, “ . .	2,458.24	
	Stillman Infirmary (Contagious Ward), ...	50,000.00	
	Gift for new University Library Building, ...	10,000.00	
3,438.44	University Museum Building (balance),	3,222.68	
$11,580,828.67	. . Amounts carried forward, . .	$464,610.52	$12,761,534.59

Principal, Aug. 1, 1902.		Principal, July 31, 1903.	
$11,580,828.67	. . Amounts brought forward, . .	$464,610.52	$12,761,584.59
	SUNDRY FUNDS.		
475,917.18	**Edward Austin** (1899), ...	480,556.21	
50,000.00	**Bright** Legacy (1880), ...	50,000.00	
30,351.79	Bursar's Sundry Accounts (balance),	27,910.96	
392,710.18	**Bussey** Trust (1861), ...	392.710.18	
159,099.72	**Calvin** and **Lucy Ellis** Aid (1899),	161,035.05	
3,171.50	**John Foster** (1840), ...	3,171.50	
488,748.07	Gains and Losses for General Investments (1891), ...	584,450.18	
788,865.31	**Price Greenleaf** (1887), ...	788,865.31	
29,939.33	**Henry Harris** (1883), ...	29,939.33	
1,320.26	**Harvard** Memorial Society (1898),	1,261.78	
49,624.76	**Robert Troup Paine** (1880), . .	51,059.99	
42,000.00	**James Savage** (1873), ...	42,000.00	
526.63	Gifts for Cuban Teachers, ...	377.96	
	Sundry balances, ...	2,494.00	3,080,442.97
	FUNDS IN TRUST FOR PURPOSES NOT CONNECTED WITH THE COLLEGE.		
16,643.61	**Daniel Williams** (1716), ...	$16,642.59	
4,794.84	**Sarah Winslow** (1790), ...	4,901.55	21,544.14
$14,114,541.85			$15,863.521.70

Changes in the Funds during the year ending July 31, 1903.

Total amount of Funds and balances, July 31, 1903, as before stated,		$15,863,521.70	
Total amount of Funds and balances, August 1, 1902, as before stated,		14,114,541.85	
Showing a total increase during the year of			$1,748,979.85
Which is made up as follows: —			
Gifts forming new Funds or increasing old ones,		$1,340,876.28	
Increase of Funds established during the year,		8,177.78	
Credit balances created,		25,612.17	
Gain from change of investments,		98,912.67	
Increase more than decrease of Funds (excluding the Insurance and Guaranty Fund) and balances, which appear both at the beginning and the end of the year,		330,223.66	
		$1,803,802.56	
Deduct from this amount			
Sundry balances used up,	$13,840.36		
Loss from change of investments,	553.14		
Decrease of Funds established during the year,	26.14		
Decrease of Insurance and Guaranty Fund, by excess of expenditures over income, in University, College, and Library accounts,	40,403.07	54,822.71	$1,748,979.85

Net increase of Funds and balances as above,	$462,926.28
Less decrease as above,	54,822.71
Leaving amount of the net increase of the Funds and balances, excluding gifts for capital account,	$408,103.57

The following tables are not found, in their present form, in the Treasurer's books. They are intended to exhibit with some detail the resources and the expenditures of each department of the University. Gifts for capital account, gifts for immediate use and the income of every Fund held by the University are given in these tables, and also the sum paid out for the specific object of each and every Fund, in case that sum be either less or more than the actual income of the Fund. If the object to which the income of a Fund is to be applied be a general one, — like salaries, for example, — no separate mention is made in these tables of that appropriation. That particular payment is merged with others of the same kind under the general heading. A balanced summary of these tables will be found on page 106.

Table No. I.

THE UNIVERSITY.

RECEIPTS.

Gifts for capital account.		
Robert Charles Billings Fund, **Stillman** Infirmary, ...	$50,000.00	
Robert Henry Eddy Fund (additional), . . .	287.00	
Henry L. Pierce Residuary Bequest “ . . .	45,000.00	
Mary R. Searle Fund, ...	1,928.75	
Herbert Schurz Memorial Free Bed Fund, . .	3,000.00	$100,215.75
Income of the following Funds: —		
Andrew Bigelow, ...	$231.66	
Stanton Blake, ...	234.00	
Charlotte F. Blanchard, ...	223.28	
Samuel D. Bradford, ...	245.70	
John W. Carter, ...	585.00	
Thomas Cotton, ...	7.25	
John Cowdin, ...	1,699.82	
George B. Dorr, ...	5,044.83	
George Draper, ...	2,216.34	
Robert H. Eddy, ...	2,650.89	
Harvard Ellis, ...	4,737.33	
J. D. W. French, ...	249.07	
Gore, ...	962.72	
John C. Gray, ...	1,087.56	
Henry Harris (½ income), ...	700.57	
Walter Hastings, ...	1,123.48	
George Baxter Hyde, ...	234.00	
Insurance and Guaranty, ...	5,754.86	
Leonard Jarvis, ...	789.61	
Henry P. Kidder, ...	468.00	
Amounts carried forward, ...	$29,245.97	$100,215.75

TABLE NO. I, THE UNIVERSITY, CONTINUED.

RECEIPTS.

Amounts brought forward,	$29,245.97	$100,215.75
Income of the following Funds (*continued*): —		
Joseph Lee,	435.02	
Theodore Lyman,	468.00	
Israel Munson,	737.10	
Francis E. Parker,	4,951.34	
William Perkins,	1,404.00	
Henry L. Pierce Residuary (part),	836.18	
President's,	2,979.85	
Retiring Allowance,	17,052.00	
John L. Russell,	1,093.72	
Isaac Sweetser,	2,195.53	
Seth Turner,	234.00	
Henry Villard,	2,340.00	
William F. Weld,	4,350.24	68,322.95
Balance remaining after dividing the net income among the Funds,	$214.41	
Care of the **Sarah Winslow** Fund,	5.61	
Sale of catalogues, calendars, directories, &c.,	980.99	
" sand,	384.25	
" flagging,	284.59	
Use of houses by College officers,	1,500.00	
Revenue check stamps redeemed,	12.20	
Use of land by **Harvard** Union,	1,360.00	4,742.05
William Hayes Fogg Art Museum.		
Income of Funds.		
William Hayes Fogg Art Museum, balance,	$30.09	
William Hayes Fogg,	2,340.00	
Gray Fund for Engravings,	798.13	
William M. Prichard,	757.17	
John Witt Randall,	1,537.85	
Mary R. Searle,	87.53	
	$5,550.77	
Gift for case,	85.00	
Sale of photographs and catalogue,	15.91	5,651.68
Semitic Museum.		
Income of Gifts for Semitic Collection,		572.99
Phillips Brooks House.		
Income of Funds.		
Phillips Brooks House Endowment,	$491.73	
Ralph H. Shepard,	495.89	
Ralph Hamilton Shepard Memorial,	276.03	1,263.65
Amount carried forward,		$180,769.07

TABLE No. I, THE UNIVERSITY, CONTINUED.

RECEIPTS.

Amount brought forward,			$180,769.07
Stillman Infirmary.			
Income of Funds.			
Samuel Ward (part),		$726.57	
Free Bed Fund of the **Class of 1868**,		249.40	
Stillman Infirmary,		343.51	
Free Bed Fund for **Stillman** Infirmary,		25.23	
Herbert Schurz Memorial Free Bed,		52.65	
Henry P. Walcott,		123.83	
Robert Charles Billings,		585.00	
		$2,106.19	
Receipts from Students,		4,500.76	6,606.95
			$187,376.02

PAYMENTS.

Overseers' Expenses.			
Printing President's Annual Report,		$1,104.72	
" Treasurer's " "		321.40	
" other reports, ballots, etc.,		82.04	
" Rules and By-Laws,		84.47	
Advertising,		208.50	
Auditing Treasurer's accounts,		150.00	
Other expenses,		34.61	$1,985.74
Office Expenses.			
President's,			
Clerical services,	$698.69		
Other expenses,	807.01	$1,505.70	
Treasurer's,			
Clerical services,	$1,200.75		
Rent of safes,	775.00		
Other expenses,	1,123.53	3,099.28	
Bursar's,			
Clerical services,	$3,676.80		
Other expenses,	1,344.97	5,021.77	
Publication Agent's,			
Clerical and other services,	$1,505.91		
Other expenses,	1,546.91	3,052.82	
Inspector of Grounds and Buildings',			
Clerical and other services,	$770.00		
Other expenses,	273.79	1,043.79	
Janitor's,		46.13	
Corporation Rooms (fuel, rent, &c.),		2,664.56	16,434.05
Amount carried forward,			$18,419.79

TABLE NO. I, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amount brought forward,			$18,419.79
Salaries.			
President,			
From the University,	$6,000.00		
" President's Fund,	3,052.99		
" Thomas Cotton Fund,	7.44	$9,060.43	
Treasurer,		6,000.00	
Comptroller,		5,000.00	
Bursar,		4,000.00	
Assistant Bursar,		2,000.00	
Secretary to the President,		2,500.00	
Secretary of the Board of Overseers,		200.00	
Commencement Marshal,		100.00	
Chairman of the Appointment Committee,		2,000.00	
Publication Agent,		2,500.00	
Inspector of Grounds and Buildings,		2,000.00	
Clerks, Treasurer's office,		3,800.00	
Bursar's Assistant,		1,800.00	40,960.43
Retiring Allowances,			14,994.28
Memorial Hall and Sanders Theatre.			
Repairs,		$124.79	
Insurance,		522.70	
Fuel, lighting, furniture, cleaning, &c.,		392.18	
Part of cost of moving Brimmer window,		1,000.00	2,039.67
General Expenses.			
Repairs and improvements,		$1,852.03	
Labor,		5,522.16	
Commencement Day expenses,		812.65	
Annual Catalogue,		2,457.99	
Calendar,		204.30	
Guide Book,		472.15	
Insurance,		37.50	
Watchmen,		2,497.64	
Freight, supplies, and sundries,		559.92	
Legal services and expenses,		60.60	
Buffalo and Paris Exposition expenses,		3.79	
Watering streets and driveways,		342.29	
Plank walks,		431.57	
Mercantile agency,		775.00	
Plans,		290.00	
Driveways and gravel walks,		810.43	
Receptions,		134.40	
Cleaning portraits,		45.00	
Amounts carried forward,		$17,309.42	$76,414.17

TABLE NO. I, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amounts brought forward, ...			$17,309.42	$76,414.17
Taxes on **Harvard** Union, ...		$4,666.50		
Less repaid by **Harvard** Union, ...	$4,209.00			
Less repaid by City of Cambridge, ...	457.50	4,666.50		
Fence painting, construction, and repairs, ...			845.76	
Installation of Telephone exchange, ...			1,957.49	
Telephone tolls and rentals, ...			57.00	
National Education Association expenses.				
Guides, ...		$492.10		
Receptions, ...		879.46	1,371.56	
Conference, Association of American Universities, .			40.00	
Payments made from University income on the following accounts: —				
Phillips Brooks House, ...			1,846.96	
William Hayes Fogg Art Museum, ...			3,468.31	
Semitic Museum. Curator, ...		$500.00		
Expenses, ...		2,016.15	2,516.15	
Germanic Museum.				
Alterations in **Rogers** Building, .		$1,565.00		
Expenses, ...		817.06	2,382.06	
Stillman Infirmary, ...			3,342.42	
School of Veterinary Medicine.				
Tuition fees of students at other schools,		$340.00		
Interest on debt, ...		705.75		
Sundries, ...		.95		
Balance of debt paid, ...		10,114.90	11,161.60	46,298.78
William Hayes Fogg Art Museum.				
Payments of $3,468.31, made from University income as above stated, and payments from the income of Funds as follows: —				
William Hayes Fogg, Director, .		$500.00		
Collections and expenses, ...		1,840.00	$2,340.00	
Gray Fund for Engravings, Curator, .		$250.00		
Collections, ...		995.00		
Expenses, ...		149.06	1,394.06	
William M. Prichard, collections, ...			197.82	
John Witt Randall, Curator, . . .		$250.00		
Collections, ...		211.70		
Expenses, ...		671.77	1,133.47	
Mary R. Searle, books, ...			37.17	
Case, from gift, ...			85.00	
From balance and sundry receipts, ...			466.51	5,654.08
Amount carried forward, ...				$128,366.98

TABLE NO. 1, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amount brought forward, ...		$128,366.93
Semitic Museum.		
Payments of $2,516.15, made from University income, as above stated, and payments from gifts for Semitic Collection, amounting to		4,564.74
Phillips Brooks House.		
Payments of $1,846.96, made from University income as above stated, and payments for furniture, receptions, &c., from the income of Funds as follows: —		
Phillips Brooks House Endowment, ...	$491.73	
Ralph H. Shepard, ...	122.56	614.29
Stillman Infirmary.		
Payments of $3,342.42 made from University income as above stated, and payments from the income of Funds, as follows: —		
Stillman Infirmary, ...	$343.51	
Robert Charles Billings, ...	585.00	
Free Bed Fund of the **Class of 1868**, ...	249.40	
" " for **Stillman** Infirmary, . . .	25.23	
Herbert Schurz Memorial Free Bed, ...	52.65	
Henry P. Walcott, ...	123.83	
Samuel Ward, ...	2,675.81	
	$4,055.43	
From receipts from students, ...	4,500.76	8,556.19
		$142,102.15

TABLE NO. II.

THE COLLEGE.

RECEIPTS.

Gifts for Capital Account.	
Rebecca C. Ames Fund, ...	$50,000.00
Robert Charles Billings Fund (**Gray** Herbarium), ...	15,000.00
George W. Dillaway Fellowship Fund, . . .	5,000.00
Eaton Professorship Fund, ...	100,553.18
Godkin Lecture Fund, ...	12,050.00
Charles Haven Goodwin Scholarship Fund (additional), ...	500.00
Bertram Kimball Fund, ...	25,000.00
Markoe Scholarship Fund, ...	5,000.00
George Foster Peabody Scholarship Fund, .	4,800.00
Professorship of Hygiene Fund (additional), . . .	20,968.66
Amount carried forward, ...	$238,871.84

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward,		$238,871.84	
Gift for Capital Account *(continued)*.			
Nelson Robinson Jr. Fund (additional),		200,000.00	
Dunlap Smith Scholarship Fund,		4,700.00	
Henry W. Wales Fund,		40,000.00	
David Ames Wells Fund (additional),		6,490.15	
Mary L. Whitney Scholarship Fund,		7,798.63	$497,860.62
Income of Funds for Instruction, and Gifts for Salaries.			
Alford Professorship,		$1,298.65	
John B. Barringer,		1,436.15	
Boylston Professorship,		1,326.17	
Class Subscription,		7,040.83	
Paul Dudley,		159.17	
Eaton Professorship,		861.41	
Eliot Professorship,		1,011.77	
Eliot " (**Jon. Phillips'** Gift),		350.00	
Calvin and **Lucy Ellis** Aid (part),		3,896.22	
Erving Professorship,		163.80	
Fisher "		1,684.38	
Henry Flynt,		18.44	
Fund for Permanent Tutors,		760.03	
Godkin Lecture,		179.57	
Gospel Church (½ income),		147.98	
Asa Gray Professorship,		1,003.90	
Gurney (part),		8,127.87	
Hersey Professorship (⅔ income),		567.69	
Hollis " (Divinity),		1,615.44	
Hollis " (Mathematics),		175.36	
Ingersoll Lecture (part),		265.59	
Abbott Lawrence,		2,879.88	
James Lawrence,		2,357.55	
Lectures on Political Economy,		471.27	
Henry Lee Professorship,		5,015.93	
Thos. Lee, for Hersey Professorship,		1,017.61	
Thos. Lee, for Reading,		739.30	
McLean Professorship,		2,015.35	
William Belden Noble Lectures.			
Interest,	$1,037.84		
Sales,	12.50	1,050.34	
Daniel H. Peirce,		658.15	
Perkins Professorship,		982.80	
Plummer "		1,170.93	
Pope "		2,457.00	
Professorship of Engineering,		1,909.72	
Amounts carried forward,		$54,816.25	$497,860.62

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,		$54,816.25	$497,860.62
Income of Funds for Instruction, and Gifts for Salaries (*continued*).			
Professorship of Hygiene (part),		7,618.67	
Nelson Robinson Jr. (part),		7,137.48	
Arthur Rotch,		1,170.00	
Rumford Professorship,		2,642.81	
Gurdon Saltonstall,		2,831.16	
Smith Professorship,		1,082.95	
Josiah Stickney,		599.55	
Unknown Memorial (part),		2,920.06	
Wales Professorship,		257.45	
Henry C. Warren (part),		5,245.09	
Sylvester Waterhouse,		250.10	
Gifts for salaries and lectures,	$1,600.00		
Interest on balance,	56.42	1,656.42	88,227.99
Income of Fellowship Funds, and Gifts for Fellowships.			
Edward Austin (part),		$10,500.00	
George W. Dillaway,		48.77	
Ozias Goodwin Memorial,		522.24	
Harris,		507.17	
Indic Philology.			
Gifts,	$800.00		
Henry C. Warren Fund (part)	250.00	1,050.00	
John Thornton Kirkland,		511.43	
Henry Lee Memorial,		540.12	
Charles Eliot Norton,		600.00	
Robert Treat Paine,		592.30	
John Parker,		2,645.79	
Rogers,		1,495.68	
Henry Bromfield Rogers Memorial,		533.00	
South End House (gifts),		220.00	
John Tyndall,		552.57	
James Walker,		533.52	
Whiting,		1,059.79	21,912.38
Income of Scholarship Funds, and Gifts for Scholarships.			
Abbot,		$174.33	
Alford (accumulating),		88.45	
Austin (part), Architecture,		600.00	
Austin (part) for Teachers,		2,166.66	
Bartlett,		251.64	
Bassett,		266.90	
Bigelow,		606.53	
Samuel A. Borden (accumulating),		102.96	
Amounts carried forward,		$4,257.47	$608,000.99

Table No. II, The College, continued.

RECEIPTS.

Amounts brought forward, ...	$4,257.47	$608,000.99
Income of Scholarship Funds, and Gifts for Scholarships (*continued*).		
Bowditch, ...	5,287.70	
Bright, ...	1,294.86	
Browne, ...	177.04	
Morey Willard Buckminster, ...	241.63	
Burr, ...	1,537.10	
Ruluff Sterling Choate, ...	285.90	
Class of 1802, ...	388.86	
" **1814,**	147.98	
" **1815 (Kirkland),**	302.84	
" **1817,**	213.22	
" **1828,**	162.63	
" **1835,**	227.31	
" **1841,**	240.27	
" **1852 (Dana),**	240.22	
" **1856,**	725.87	
" **1867,**	218.56	
" **1877,**	235.40	
" **1883,**	250.00	
Crowninshield, ...	554.72	
Warren H. Cudworth (gift), ...	600.00	
Francis H. Cummings, ...	253.89	
George and **Martha Derby,**	258.85	
Julius Dexter, ...	232.60	
Orlando W. Doe, ...	129.08	
William Samuel Eliot, ...	256.46	
Joseph Eveleth (part), ...	1,368.61	
Fall River, ...	99.50	
Farrar, ...	294.79	
Richard Augustine Gambrill, ...	527.95	
Charles Haven Goodwin, ...	337.24	
Benjamin D. Greene, ...	196.19	
Price Greenleaf, ...	3,000.00	
John Appleton Haven, ...	468.94	
William Hilton (part), ...	474.76	
Ebenezer Rockwood Hoar, ...	495.52	
Levina Hoar, for the town of Lincoln, ...	292.41	
Hodges (part), ...	276.35	
Hollis, ...	288.29	
Henry B. Humphrey, ...	503.10	
Hennen Jennings, ...	496.60	
C. L. Jones, ...	1,415.23	
Lawrence Scientific School Association (gift), .	300.00	
Amounts carried forward, ...	$29,555.89	$608,000.99

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, ...	$29,555.89	$608,000.99
Income of Scholarship Funds, and Gifts for Scholarships (*continued*).		
George Emerson Lowell, ...	483.16	
Markoe, ...	117.00	
Matthews (½ net rents of Hall), ...	5,293.86	
William Merrick, ...	283.09	
Morey, ...	384.04	
Lady Mowlson, ...	268.21	
Howard Gardner Nichols, ...	259.79	
Lucy Osgood (accumulating), ...	245.79	
George Foster Peabody, ...	150.00	
Pennoyer, ...	191.15	
Perkins, ...	199.09	
Wendell Phillips, ...	69.78	
Ricardo Prize (gift), ...	350.00	
Rodger, ...	56.39	
Henry Bromfield Rogers, ...	160.24	
Edward Russell, ...	264.14	
Sales, ...	257.96	
Saltonstall, ...	518.22	
Leverett Saltonstall, ...	393.40	
Mary Saltonstall, ...	323.90	
Savage, ...	300.00	
Sever, ...	151.63	
Sewall, ...	508.81	
Shattuck, ...	2,285.66	
Slade, ...	284.50	
Story, ...	207.84	
Stoughton, ...	67.16	
Summer School in Geology (gifts), ...	475.00	
Swift, ...	107.08	
Thayer, ...	3,638.33	
Gorham Thomas, ...	194.73	
Toppan, ...	354.98	
Townsend, ...	1,187.32	
Walcott, ...	219.73	
Christopher M. Weld, ...	487.94	
Jacob Wendell, ...	246.73	
Whiting, ...	538.01	
Mary L. Whitney, ...	92.72	
Anonymous Gift for Scholarship use, ...	100.00	51,273.27
Amount carried forward, ...		$659,274.26

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward,			$659,274.26
Income of Beneficiary and Loan Funds, and Repayments.			
Rebecca C. Ames,		$682.48	
Nathaniel Appleton,		24.57	
Edward Austin (part),		2,167.22	
Edward Austin Loans (L. S. S.), repayments,		656.97	
Frank Bolles Memorial,		78.90	
William Brattle,		67.35	
Thomas Danforth,		43.85	
Moses Day,		255.01	
Calvin and **Lucy Ellis** Aid (part),		2,455.00	
John Ellery,		17.55	
Exhibitions,		62.38	
Thomas Fitch,		32.90	
Ephraim Flynt,		18.91	
Henry Flynt,		6.55	
Henry Gibbs,		19.66	
John Glover,		130.24	
Price Greenleaf Aid (balance).			
Interest,	$16,590.77		
Repayment,	50.00	16,640.77	
Edward Holyoke,		15.77	
Robert Keayne,		104.18	
Bertram Kimball,		195.02	
Lawrence Scientific School Loans, repayments,		770.77	
Mary Lindall,		43.10	
Susan B. Lyman,		255.58	
Anne Mills,		9.22	
Munroe,		508.02	
Palfrey Exhibition,		93.97	
Dr. Andrew P. Peabody Memorial.			
Interest,	$206.29		
Repayment,	28.00	234.29	
Scholarship and Beneficiary Money Returned.			
Loans and Scholarships repaid,		968.00	
Joseph Sewall,		8.75	
Alexander W. Thayer (part),		191.53	
Quincy Tufts,		522.05	
Benjamin Wadsworth,		11.84	
Samuel Ward (part),		90.00	
Stuart Wadsworth Wheeler.			
Interest,	$248.27		
Loan repaid,	54.00	302.27	27,684.67
Amount carried forward,			$686,958.93

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward,			$686,958.93
Income of Prize Funds, and gifts for prizes.			
James Gordon Bennett,		$66.74	
Bowdoin Prizes for Dissertations,		1,376.62	
Boylston Prizes for Elocution,		168.11	
Coolidge Debating,		243.13	
Dante (gift),		100.00	
Edward Hopkins Gift for "Deturs."			
From Trustees,	$200.73		
Interest on unexpended balance,	88.87	289.60	
Sales,		49.89	
John O. Sargent,		122.76	
George B. Sohier (part),		250.00	
Charles Sumner,		151.31	
Robert N. Toppan,		172.08	
Philip Washburn,		99.03	
David Ames Wells,		4,515.21	7,604.48
Income of Funds for General Purposes.			
J. W. P. Abbot (accumulating),		$418.63	
John A. Blanchard,		49.14	
Jonathan Phillips,		1,474.20	
Charles L. Hancock (part),		4,290.68	6,232.65
Income of Sundry Funds for Special Purposes.			
Botanic Department, ⅔ for Cryptogamic Herbarium,		$465.43	
" " ⅓ for Laboratories of Botany,		232.71	
Francis James Child Memorial,		521.63	
Classical Publication Fund of the **Class of 1856,**			
Interest,	$332.51		
Sales,	93.08	425.59	
T. Jefferson Coolidge, for Research in Physics,		2,500.00	
George A. Gardner,		261.75	
Harvard Oriental Series,		707.80	
Joseph Lovering, for Physical Research,		391.68	
Nelson Robinson Jr. (part),		8,283.09	
George W. Sawin,		204.28	
Barthold Schlesinger,		5.17	
John E. Thayer,		762.65	
Elizabeth Torrey,		54.99	
Henry Warren Torrey. Interest,	$495.61		
Sales,	123.37		
Gift,	39.52	658.50	
Unknown Memorial (part),		1,800.00	
Cyrus M. Warren,		317.30	
Henry C. Warren (part),		192.37	
Chauncey Wright,		45.30	17,830.24
Amount carried forward,			$718,626.30

TABLE No. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward, ...			$718,626.30
Appleton Chapel.			
Income of Fund for Religious Services, ...		$48.39	
" **Increase Sumner Wheeler** Fund, .		2,340.00	2,388.39
Jefferson Physical Laboratory.			
Interest on unexpended balance, ...		$157.80	
Income of Endowment, ...		3,510.00	3,667.80
Botanic Garden and Botanic Museum.			
Income of Botanic Department Fund (⅝ income), .		$1,163.56	
" **Lowell** Fund, ...		3,107.84	
" **John L. Russell** Fund (part), . . .		23.40	
" Gifts for Cases, ...		32.15	
Use of house, ...		700.00	
Gifts for present use, ...		1,300.00	
Sale of botanical material, ...		500.00	6,826.95
Gray Herbarium.			
Income of balance, ...		$110.44	
" **Robert C. Billings** Fund, ...		175.50	
" **Asa Gray** Memorial Fund, ...		1,521.51	
" Herbarium Fund, ...		966.70	
" **John L. Russell** Fund (part), . . .		70.20	
Asa Gray's copyrights, ...		823.90	
Sale of publications, ...		223.55	
" check lists, ...		1.49	
" covers and odd plates, ...		6.50	
Commission on sales of Sullivant's Icones, ...		16.75	
Gifts for present use, ...		7,560.00	11,476.54
Sundry Gifts.			
For Department of Architecture.			
Gifts, ...	$5,000.00		
Interest, ...	54.27	$5,054.27	
For Department of The Classics, sales of publications, ...		189.33	
" " " Engineering. Gift, .	$3,000.00		
Interest,	43.30	3,043.30	
" " " French, ...		24.08	
" " " " for lantern slides, . . .		27.40	
" " " Mathematics, for "Transactions,"		200.00	
" " " Physics. Gift, ...	$100.00		
Interest, . .	10.20	110.20	
Amounts carried forward, ...		$8,648.58	$742,985.98

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, ...			$8,648.58	$742,985.98
Sundry Gifts (*continued*).				
For Department of Political Economy, maps and charts.				
Gift, ...		$500.00		
Interest, ...		2.71	502.71	
" " " Sanskrit.				
Interest, ...		$25.35		
Sales of publications,		76.13	101.48	
" Sugar-cane investigations. Interest, ...			25.98	
" Semitic Library, interest, ...			21.41	
" Plantations in the College Yard.				
Gift, ...		$5,000.00		
Interest, ...		56.48	5,056.48	
" Ethics of the Social Questions.				
Gift, ...		$2,500.00		
Interest, ...		11.78	2,511.78	
" Bermuda Biological Station.				
Gifts, ...		$1,000.00		
Interest, ...		2.04	1,002.04	
" Research in Experimental Phonetics, ...			125.00	17,995.46
Receipts from Students.				
Tuition fees, regular courses, ...			$432,196.97	
" " Summer Schools, ...			29,691.17	
Examination fees.				
Admission, ...		$4,735.00		
Condition, ...		420.00		
Degree of Ph.D., ...		30.00	5,185.00	
Graduation fees, ...			8,280.00	
Laboratory fees.				
Botany, ...		$1,125.00		
Chemistry, ...		13,575.74		
Engineering, ...		2,236.00		
Geology, ...		1,110.00		
Hygiene, ...		1,390.00		
Mineralogy, ...		510.00		
Mining and Metallurgy, ...		2,189.93		
Philosophy, ...		162.50		
Physics, ...		4,995.00		
Zoölogy, ...		890.00	28,184.17	
Amounts carried forward, ...			$503,537.31	$760,981.44

TABLE No. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,			$503,537.31	$760,981.44
Receipts from Students (*continued*).				
Hemenway Gymnasium, use of lockers,			3,707.50	
College dormitories,		$104,320.00		
Less the following items:—				
Receipts from dormitories belonging to University Houses and Lands account,	$21,920.00			
One-half net income from Matthews Hall, credited under income of Scholarship Funds, &c.,	5,293.86	27,213.86	77,106.14	
Summer Camp, Engineering,			6,518.04	590,868.99
Sundries.				
Use of rooms by College Society,			$1,260.00	
" **Hemenway** Gymnasium by graduates and others,			78.88	
Sale of tickets to Commencement Dinner,			583.00	
" hymn books,			47.24	
" Annals of Mathematics,			349.57	
" other publications,			1,608.56	
" old examination papers,			387.92	
" sundries,			5.00	
Repayment for books bought in 1901–02,			5.01	4,325.18
				$1,356,175.61

PAYMENTS.

From Fellowship Funds and Gifts.		
Edward Austin,	$2,000.00	
Austin, Teaching,	8,500.00	
Ozias Goodwin Memorial,	450.00	
Harris,	500.00	
Indic Philology,	750.00	
John Thornton Kirkland,	450.00	
Henry Lee Memorial,	450.00	
Charles Eliot Norton,	300.00	
Robert Treat Paine,	500.00	
John Parker,	2,100.00	
Rogers,	725.00	
Henry Bromfield Rogers Memorial,	450.00	
South End House,	400.00	
James Walker,	500.00	
Whiting,	900.00	$18,975.00
Amount carried forward,		$18,975.00

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward, ...		$18,975.00
From Scholarship Funds and Gifts.		
Abbot, ...	$100.00	
American School of Classical Studies (part), . . .	25.00	
Austin, Architecture, ...	600.00	
Austin, for Teachers, ...	2,166.66	
Bartlett, ...	250.00	
Bassett, ...	270.00	
Bigelow, ...	500.00	
Bowditch, ...	4,699.98	
Bright, ...	1,066.66	
Browne, ...	100.00	
Morey Willard Buckminster, ...	200.00	
Burr, ...	1,200.00	
Ruluff Sterling Choate, ...	275.00	
Class of 1802, ...	425.00	
Class of 1814, ...	125.00	
“ **1815 (Kirkland),**	250.00	
“ **1817,**	225.00	
“ **1828,**	150.00	
“ **1835,**	175.00	
“ **1841,**	266.66	
“ **1852 (Dana),**	266.66	
“ **1856,**	500.00	
“ **1867,**	175.00	
“ **1877,**	200.00	
“ **1883,**	200.00	
Crowninshield, ...	525.00	
Warren H. Cudworth, ...	600.00	
George and **Martha Derby,**	250.00	
Julius Dexter, ...	175.00	
O. W. Doe, ...	100.00	
William Samuel Eliot, ...	250.00	
Joseph Eveleth, ...	866.68	
Fall River, ...	80.00	
Farrar, ...	333.34	
Richard Augustine Gambrill, ...	425.00	
Charles Haven Goodwin, ...	300.00	
Benjamin D. Greene, ...	150.00	
Price Greenleaf, ...	3,400.00	
John Appleton Haven, ...	400.00	
Hilton, ...	450.00	
Ebenezer Rockwood Hoar, ...	333.34	
Levina Hoar, for the town of Lincoln, ...	250.00	
Hodges, ...	250.00	
Amounts carried forward, ...	$23,549.98	$18,975.00

Table No. II, The College, continued.

PAYMENTS.

Amounts brought forward,	$23,549.98	$18,975.00
From Scholarship Funds and Gifts (*continued*).		
Hollis,	225.00	
Henry B. Humphrey,	375.00	
Hennen Jennings,	400.00	
C. L. Jones,	1,200.00	
Lawrence Scientific School Association,	250.00	
George Emerson Lowell,	466.66	
Matthews,	5,400.00	
William Merrick,	225.00	
Morey,	350.00	
Lady Mowlson,	225.00	
Howard Gardner Nichols,	200.00	
Rebecca A. Perkins,	150.00	
Wendell Phillips Memorial,	33.34	
Ricardo Prize,	350.00	
Rodger,	150.00	
Henry Bromfield Rogers,	100.00	
Edward Russell,	200.00	
Sales,	166.66	
Saltonstall,	483.34	
Leverett Saltonstall,	325.00	
Mary Saltonstall,	350.00	
Savage,	400.00	
Sever,	100.00	
Sewall,	466.66	
Shattuck,	1,900.00	
Slade,	333.34	
Story,	175.00	
Summer Scholarships in Geology,	475.00	
Thayer,	3,000.00	
Gorham Thomas,	150.00	
Toppan,	300.00	
Townsend,	916.67	
Walcott,	66.66	
Christopher M. Weld,	400.00	
Jacob Wendell,	200.00	
Whiting,	366.66	
University, Graduate School,	1,375.00	
“ Lawrence Scientific School,	1,050.00	
Normal, “ “ “	550.00	
Anonymous Gift for Scholarship use,	100.00	47,499.97
Amount carried forward,		$66,474.97

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward, ...			$66,474.97
From Beneficiary and Loan Funds.			
Rebecca C. Ames, ...		$279.02	
Edward Austin.			
Loans to L. S. S. students, ...	$1,999.72		
" Special "	167.50	2,167.22	
Moses Day, ...		255.01	
Calvin and **Lucy Ellis** Aid.			
Beneficiaries, ...	$2,450.00		
Genealogical expenses, ...	5.00	2,455.00	
Exhibitions, ...		62.38	
Price Greenleaf Aid, ...		14,105.33	
Edward Holyoke, ...		10.30	
Lawrence Scientific School Loans Repaid, . . .		347.56	
Munroe, ...		508.02	
Palfrey Exhibition, ...		80.00	
Dr. Andrew P. Peabody Memorial, ...		24.95	
Quincy Tufts, ...		522.05	
Stuart Wadsworth Wheeler, ...		300.00	
Samuel Ward, special food for sick students, .		90.00	
Scholarship and Beneficiary money returned, . . .		2,841.56	
College Appropriations for L. S. S. students, . . .		1,400.00	25,448.40
From Prize Funds.			
Bowdoin Prizes for Dissertations, ...		$600.00	
Boylston Prizes for Elocution, ...		255.00	
Coolidge Debating, ...		200.00	
Dante, ...		100.00	
Edward Hopkins Gift for "Deturs,"		234.25	
John O. Sargent, ...		200.00	
George B. Sohier, ...		250.00	
Robert N. Toppan, ...		150.00	1,989.25
From Sundry Funds for Special Purposes.			
Francis James Child Memorial, books, . . .		$443.35	
T. Jefferson Coolidge, research in Physics, . .		2,046.36	
Classical Publication Fund of the **Class of 1856.**			
Harvard Studies in Classical Philol., .	$29.20		
Interest on advances, ...	48.20	77.40	
George A. Gardner, photographs, etc., for Department of Geology, ...		274.65	
Harvard Oriental Series, publications, ...		765.00	
Joseph Lovering, research in Physics, ...		790.54	
George W. Sawin, books for Department of Mathematics, ...		144.00	
Amounts carried forward, ...		$4,541.30	$93,912.62

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward, ...		$4,541.30	$93,912.62
From Sundry Funds for Special Purposes (*continued*).			
Barthold Schlesinger, books for Department of German, ...		973.81	
John E. Thayer, Quarterly Journal of Economics,		574.81	
Elizabeth Torrey, books for Department of History, ...		36.35	
Henry Warren Torrey, publications, ...		106.46	
Unknown Memorial, services and expenses, ...		1,736.92	
Cyrus M. Warren, research in Chemistry, . .		519.04	
Chauncey Wright, books for Department of Mathematics, ...		24.18	
Henry C. Warren, publications, ...		192.87	
Nelson Robinson Jr.			
Expenses of **Nelson Robinson Jr.** Hall, ...	$7,820.50		
Expenses in Department of Architecture, ...	413.97		
Expenses in Department of Landscape Architecture, ...	48.62	8,283.09	16,988.83
Appleton Chapel.			
Preaching and morning services, ...		$3,278.15	
Organist and Choir-master, ...		2,000.00	
Choir, ...		1,600.00	
Music and binding, ...		429.04	
Repairs and improvements, ...		86.84	
Fuel, gas, cleaning, &c., ...		1,083.69	
Furniture, ...		49.00	
Repairing Organ, ...		23.64	8,550.36
Jefferson Physical Laboratory.			
Repairs and improvements, ...		$739.05	
Insurance, ...		90.00	
Laboratory expenses, ...		5,217.50	
		$6,046.55	
Less amounts paid by the College (included among expenses on College Public Buildings), for			
Repairs and improvements, ...	$494.66		
Insurance, ...	90.00		
Laboratory expenses, ...	600.00	1,184.66	
Payments from the income of the Endowment, . .			4,861.89
Hemenway Gymnasium.			
Salaries and wages, ...	$4,545.08		
Repairs and improvements, ...	385.85		
Amounts carried forward, . .	$4,930.93		$124,313.20

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward, . .	$4,930.93		$124,313.20
Hemenway Gymnasium (*continued*).			
Janitors and cleaning, ...	2,458.21		
Fuel, ...	1,331.39		
Apparatus, ...	700.00		
Insurance, ...	256.50		
Water, ...	208.81		
Lighting, ...	927.18		
Printing, ...	52.94		
Furniture, ...	39.35		
Stationery and postage, ...	43.66		
Telephone, ...	30.63		
Supplies and sundries, ...	81.68	$11,061.28	
Less amount received from other departments, .		1,326.44	9,734.84
Botanic Garden and Botanic Museum.			
Salaries, labor, repairs, materials, &c., ...		$8,120.06	
Interest on advances, ...		265.37	
Cases, from gift, ...		392.95	8,778.38
Gray Herbarium.			
Salaries, ...		$5,050.00	
Cases, ...		854.00	
Collectors, expenses, ...		1,300.00	
Labor, repairs, materials, &c., ...		4,732.36	11,936.36
Summer Schools.			
Salaries, ...		$14,759.50	
Clerical services, ...		400.00	
Janitors and cleaning, ...		119.32	
Water, ...		16.95	
Lighting, ...		19.80	
Printing, ...		1,189.71	
Instruments and apparatus, ...		30.48	
Stationery and postage, ...		452.18	
Advertising, ...		636.97	
Services and wages, ...		471.65	
Supplies, materials, and sundries, ...		469.76	
Remission of fees for instruction, ...		150.00	
Restaurant expenses, ...		475.80	
Ventilation in **Randall** Hall (⅓ cost), ...		148.59	19,340.71
From Special Gifts.			
For Department of Architecture, books, casts, &c.,		$8,190.70	
" " Botany, sugar-cane investigation,		977.00	
" " The Classics, books, ...		296.09	
" " Education, books, ...		227.41	
Amounts carried forward, ...		$9,691.20	$174,103.49

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward, ...	$9,691.20	$174,103.49
From Special Gifts (*continued*).		
For Department of Engineering, electrical apparatus,	1,273.00	
“ “ French, books, ...	29.09	
“ “ “ lantern slides, ...	17.40	
“ “ German, books, ...	20.89	
“ “ History and Government, books,	17.14	
“ “ Mathematics, subscription for “Transactions,”	100.00	
“ “ Physics, research, ...	14.00	
“ “ “ apparatus, &c., ...	1,020.18	
“ “ Political Economy, books, . . .	9.63	
“ “ “ “ maps and charts,	60.00	
“ “ Sanskrit, publications, ...	1,354.61	
“ “ Zoölogy, aquarium (part), . . .	20.00	
“ Lowell Memorial Library, books, ...	85.56	
“ Semitic Library, books, ...	118.20	
“ Social Questions Library, books, ...	11.78	
“ Plantations in the College Yard, ...	1,269.09	
“ Bermuda Biological Station, ...	548.23	15,660.00
Appropriations for collections, laboratories, &c.		
Anthropology (Prof. F. W. Putnam), ...	$200.00	
Botany (Prof. Thaxter), ...	200.00	
Chemistry (Prof. H. B. Hill), ...	500.00	
Engineering instruments (Prof. Hollis), ...	129.75	
Fine Arts and Drawing (Prof. Moore), ...	300.00	
French, lantern slides, ...	200.00	
Geology and Geography (Asst. Prof. Ward), . . .	250.00	
“ for publications, ...	300.00	
“ “ reprints, ...	100.00	
“ “ assistance, ...	150.00	
Greek Epigraphy (Prof. H. W. Smyth), ...	200.00	
Volcanic specimens (Instr. Jaggar), ...	364.24	
Division of Mathematics, ...	300.00	
Mineralogy (Prof. Wolff), ...	500.00	
Mining and Metallurgy, Equipment (Prof. H. L. Smyth), ...	1,072.00	
Mining and Metallurgy, running expenses (Prof. H. L. Smyth), ...	250.00	
Music (Prof. Paine), ...	250.00	
Petrography (Prof. Wolff), ...	150.00	
Physics (Prof. Trowbridge), ...	1,000.00	
Psychology (Prof. Münsterberg), ...	300.00	
“ for publications, ...	400.00	
Amounts carried forward, ...	$7,115.99	$189,763.49

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward, ...	$7,115.99	$189,763.49
Appropriations for collections, laboratories, &c. (*continued*).		
Zoölogy (Prof. Mark), ...	400.00	
" for publications, ...	500.00	
" ½ cost of certain improvements at Museum of Comparative Zoölogy, ...	1,079.27	
Laboratory fees appropriated, ...	25,948.17	
Fuel and services in Nat. Hist. Laboratories, . . .	1,500.00	
Fuel, services, &c., in Jefferson Ph. Laboratory,	600.00	37,143.43
Salaries.		
Instruction, ...	$417,227.00	
Deans, ...	4,500.00	
Chairmen of Committees, ...	1,633.33	
Medical Visitor, ...	3,000.00	
Recorders and Secretaries, ...	5,100.00	
Examination Proctors, ...	1,950.00	433,410.33
For College Public Buildings which are not valued in the Treasurer's books, the expenses of which are not separately entered in this table.		
Repairs, improvements, &c., ...	$11,829.53	
Cleaning and care, ...	12,467.13	
Fuel, ...	12,181.73	
Water, ...	374.01	
Lighting, ...	1,734.03	
Insurance, ...	2,388.61	
Electric power, ...	570.00	
Supplies and sundries, ...	478.57	42,023.61
For College Dormitories, which are not valued in the Treasurer's books.		
Repairs and improvements, ...	$4,442.71	
Cleaning and care, ...	13,056.93	
Fuel, ...	3,987.53	
Water, ...	836.88	
Lighting, ...	3,607.40	
Insurance, ...	528.57	
Supplies and sundries, ...	288.90	26,748.92
General Expenses.		
Deans and Chairmen of Committees, clerical and office expenses, ...	$15,727.61	
Reading examination books, ...	3,386.97	
Services of proctors, ...	1,336.63	
" assistants to instructors, ...	4,377.34	
" undergraduates, ...	2,173.56	
Amounts carried forward	$27,002.11	$729,089.78

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward,		$27,002.11	$729,089.78
General Expenses (*continued*).			
Services of Head Guide in College grounds,		38.05	
Attendants in department laboratories,		2,140.00	
Attendants in department libraries,		1,534.50	
Admission examinations,		3,528.53	
Pews hired in Cambridge churches,		1,831.50	
Commencement Dinner,		543.42	
Printing office, expenses,	$23,324.63		
Less receipts,	13,356.66	9,967.97	
Printing,		9.50	
Printing reports of Mining Club,		185.50	
Books,		.46	
Annals of Mathematics,		1,050.97	
Handbook of American History,		351.48	
Telephones,		95.41	
Furniture,		4,727.71	
Advertising,		726.25	
Watchmen,		1,561.40	
Supplies, tools, and materials,		237.13	
Legal services,		56.88	
Music, Class-Day,		125.00	
Receptions,		356.25	
Department of Economics, equipment of head-quarters,		194.81	
Use of Grays 18 by English department,		100.00	
Services and expenses at Faculty meetings,		81.67	
" for Parietal Board,		73.25	
" " Department of Education,		12.90	
Blank books for examinations,		653.50	
Expenses of camp at Squam Lake (Engineering),		6,491.68	
Engineering courses in Pierce Hall,		7,766.83	
Travelling expenses in Mining 12,		289.30	
Travelling expenses in Economics 18,		52.30	
Expenses of Medical Visitor,		137.72	
" " delegates,		220.28	
Diplomas,		788.87	
Lighting College Yard,		547.51	
Case for model of Metropolitan District,		405.53	
Freight, and sundries,		261.58	74,147.75
			$803,237.53

TABLE No. III.

THE LIBRARY.

RECEIPTS.

Income of Book Funds, and Gifts and Receipts for the purchase of books.		
Nathaniel I. Bowditch,	$99.36	
Bright (½ income of the **Bright** Legacy),	1,170.00	
Edwin Conant (¼ income),	324.78	
Constantius (½ income),	608.23	
Denny,	248.13	
Eliza Farrar,	248.04	
Horace A. Haven,	149.20	
Francis B. Hayes,	472.04	
George Hayward,	247.85	
Thomas Hollis,	110.92	
Sidney Homer,	99.83	
Frederick A. Lane,	248.13	
Lowell,	1,229.39	
Charles Minot,	2,832.34	
Lucy Osgood,	334.39	
Mary Osgood,	328.63	
Henry L. Pierce,	4,718.10	
Francis Sales,	184.81	
Stephen Salisbury,	247.71	
Sever,	944.43	
Samuel Shapleigh,	186.26	
George B. Sohier (part),	77.60	
Subscription for Library,	501.56	
Charles Sumner,	1,760.19	
Kenneth Matheson Taylor,	238.30	
Ichabod Tucker,	210.86	
James Walker,	744.59	
Thomas W. Ward,	248.13	
Executors of **Robert Waterston** (balance),	11.61	
J. Huntington Wolcott,	943.96	
Gifts for books,	3,857.61	
Sale of duplicate books,	205.41	
Received for books lost,	37.00	
Fines,	344.99	$24,214.38
Income of **R. M. Hodges** Fund, for publishing Bibliographical Contributions,		359.57
Income of Funds for general purposes.		
Daniel Austin,	$291.56	
Edwin Conant (¾ income),	974.34	
Constantius (½ income),	608.24	
Amounts carried forward,	$1,874.14	$24,573.95

TABLE No. III, THE LIBRARY, CONTINUED.

RECEIPTS.

Amounts brought forward, ...	$1,874.14	$24,573.95
Income of Funds for general purposes (*continued*).		
Fund of the **Class of 1851** (accumulating), . .	27.38	
" " " " (C. F. Dunbar's Gift),	26.96	
Price Greenleaf, ...	16,590.76	
Jarvis, ...	23.40	
Henry T. Morgan, ...	3,835.31	
James Savage (½ net income), ...	1,249.20	
Daniel Treadwell, ...	558.09	
Eben Wright, ...	4,680.00	28,865.24
Fees for use of Library, ...	$120.00	
Sale of Index Subject Catalogues, ...	.75	
" Bibliographical Contributions, ...	4.68	
" duplicate coins, &c., ...	31.42	156.85
		$53,596.04

PAYMENTS.

For Books, from the following Funds, Gifts, etc.	
Bowditch, ...	$89.13
Bright, ...	1,202.37
Conant, ...	339.49
Constantius, ...	647.73
Denny, ...	238.27
Farrar, ...	230.75
Haven, ...	129.45
Hayes, ...	509.26
Hayward, ...	318.21
Hollis, ...	108.86
Homer, ...	68.68
Lane, ...	252.73
Lowell, ...	927.51
Minot, ...	2,874.54
Lucy Osgood, ...	328.82
Mary Osgood, ...	354.96
Pierce, ...	5,056.88
Sales, ...	182.09
Salisbury, ...	227.22
Sever, ...	1,035.45
Shapleigh, ...	184.52
Sohier, ...	73.55
Subscription Fund, ...	642.00
Sumner, ...	1,766.48
Taylor, ...	248.79
Tucker, ...	198.60
Amount carried forward, ...	$18,231.34

Table No. III, The Library, continued.

PAYMENTS.

Amount brought forward,		$18,231.34	
For Books, from the following Funds, etc. (*continued*).			
Walker,		783.79	
Ward,		250.43	
J. Huntington Wolcott,		1,008.00	
Gift for books on Aeronautics,		15.66	
Gifts for early editions of the Printed Bible,		393.81	
Mrs. Louis Bettmann Gift,		140.93	
A. C. Coolidge Gifts,		1,101.33	
Harold J. Coolidge Gift,		63.60	
Mrs. J. R. Coolidge Gift,		8.12	
Dante Society Gift,		48.38	
John Drew Gift,		1,000.00	
Gifts for English Literature of the 17th and 18th centuries,	$1,037.57		
Less repayment,	4.50	1,033.07	
Ernest L. Gay Gift,		28.76	
Hammer Gift,		70.43	
Loeb Gift,		47.06	
Saturday Club Gift,		2.57	
John Harvey Treat Gift,		150.53	
Alain C. White Gift,		199.17	
Duplicate money and receipts for lost books,		239.63	
Fines,		354.70	$25,171.31
From **R. M. Hodges** Fund.			
Publication of bibliographical contributions,			150.34
Salaries,		$15,500.00	
Services and wages,		19,362.05	
Repairs and improvements,		659.06	
Janitors and cleaning,		1,116.39	
Fuel,		1,387.16	
Water,		12.23	
Lighting,		1,726.20	
Printing,		1,663.55	
Furniture,		733.04	
Stationery and postage,		627.18	
Telephone,		140.47	
Binding,		2,289.73	
Travelling expenses,		27.00	
Electric power,		79.54	
Freight,		173.88	
Medals,		31.42	
Supplies, and sundries,		848.49	46,377.39
			$71,699.04

Table No. IV.

DIVINITY SCHOOL.

RECEIPTS.

Income of Funds for Instruction, or for general purposes.

Divinity School (balance),		$1,743.53	
New Endowment,		3,342.78	
Oliver Ames,		795.60	
Hannah C. Andrews,		24.57	
Daniel Austin,		41.65	
Adams Ayer,		46.80	
Joseph Baker,		368.55	
Beneficiary money returned (balance),		96.27	
Bussey Professorship,		1,758.93	
Benjamin Bussey Trust (½ net income),		2,949.11	
Joshua Clapp,		101.93	
Edwin Conant,		234.00	
Dexter Lectureship,		949.10	
Frothingham Professorship,		2,270.32	
Abraham W. Fuller,		49.14	
Lewis Gould,		42.64	
John Hancock Professorship,	$281.17		
C. L. Hancock,	383.16	664.33	
Haven,		234.00	
Samuel Hoar,		49.14	
Henry P. Kidder,		468.00	
Henry Lienow,		429.86	
Caroline Merriam,		49.14	
Parkman Professorship,		749.55	
John W. Quinby,		22.60	
Abby Crocker Richmond,		46.80	
John L. Russell,		46.80	
William B. Spooner,		468.00	
Thomas Tileston of New York Endowment,		1,872.00	
Mary P. Townsend,		245.70	
Winthrop Ward,		98.28	
Winn Professorship,		2,543.39	$22,802.51

Income of Scholarship and Beneficiary Funds.

Abner W. Buttrick,	$611.68	
Thomas Cary,	257.03	
George Chapman,	126.45	
Joshua Clapp,	207.28	
Jackson Foundation,	694.98	
J. Henry Kendall,	250.38	
Nancy Kendall,	160.57	
William Pomroy,	49.14	2,357.51
Amount carried forward,		$25,160.02

TABLE NO. IV, DIVINITY SCHOOL, CONTINUED.

RECEIPTS.

Amount brought forward, ...			$25,160.02
Income of Book Funds.			
Rushton Dashwood Burr, ...		$181.07	
Louisa J. Hall, ...		33.79	214.86
Receipts from Students.			
Tuition fees, regular courses, ...		$5,749.54	
" " Summer School, ...		855.00	
Divinity Hall, ...		2,770.00	
Library fines, ...		5.95	9,380.49
Gift from Society for Promoting Theological Education,		$749.96	
Gifts for repairs in the Chapel, ...		525.00	
Sale of tickets to Alumni Dinner, ...		47.00	
" Catalogues, ...		2.75	1,324.71
			$36,080.08

PAYMENTS.

From Scholarship Funds.			
Thomas Cary, ...		$80.00	
George Chapman, ...		100.00	
Joshua Clapp, ...		180.00	
Jackson, ...		586.66	
J. H. Kendall, ...		200.00	
Nancy Kendall, ...		140.00	$1,286.66
From Beneficiary Funds.			
Abner W. Buttrick, ...		$450.00	
William Pomroy, ...		50.40	500.40
From **Louisa J. Hall** Fund, books, ...			.67
Salaries for instruction, ...		$27,384.56	
Summer School. Salaries for instruction, .	$1,125.00		
Printing and other expenses,	385.65	1,510.65	
Secretary and Librarian, ...		1,750.00	
Services and wages, ...		388.67	
Library Assistants, ...		1,065.00	
Repairs, improvements, and labor, ...		898.56	
Cleaning and care of rooms, ...		1,736.72	
Fuel, ...		1,088.27	
Water, ...		75.90	
Lighting, ...		348.63	
Printing, ...		115.96	
Furniture, ...		520.46	
Stationery and postage, ...		176.20	
Telephone, ...		36.20	
Books, ...		634.69	
Amounts carried forward, ...		$37,730.47	$1,787.73

TABLE NO. IV, DIVINITY SCHOOL, CONTINUED.

PAYMENTS.

Amounts brought forward,	$37,730.47	$1,787.73
Binding,	142.78	
Catalogues,	113.10	
Advertising,	613.36	
Diplomas and sundries,	122.25	
Alumni dinner,	68.75	
Proportion of expenses of Gymnasium,	72.49	
Tuning and repairing organ,	14.75	
American School for Oriental study and research in Palestine (3d payment),	100.00	
Inter-Seminary Mission Alliance Meeting,	110.20	
Alterations of Library building,	1,979.35	
Removing Divinity House,	267.05	41,334.55
		$43,122.28

TABLE NO. V.

LAW SCHOOL.

RECEIPTS.

Gift for Capital Account.		
Hughes Loan Fund,		$500.00
Income of Funds.		
Law School, balance,	$9,610.90	
James Barr Ames Prize,	183.35	
Bemis Professorship,	3,081.31	
Benjamin Bussey Professorship,	1,122.26	
Benjamin Bussey Trust (¼ net income),	2,949.10	
Nathan Dane Professorship,	737.10	
John Foster, income for Law Students every other year,	148.40	
Hughes Loan,	1.97	
Law School Book,	2,200.58	
Law School Library,	4,680.00	
Isaac Royall Professorship,	390.36	
Weld "	4,445.77	
Scholarship money returned,	62.15	29,613.25
Tuition fees,		94,773.50
Sale of Catalogue,		3.00
" books,		612.50
" portraits,		16.75
		$125,519.00

TABLE NO. V, LAW SCHOOL, CONTINUED.

PAYMENTS.

James Barr Ames Prize Fund.		
Engraving dies for medal,	$400.00	
Prize,	400.00	$800.00
Salaries for instruction,	$44,945.83	
Librarian and Assistants,	8,991.45	
Secretary,	800.00	
Reading examination books,	301.00	
Services of proctors,	297.87	
Scholarships,	6,000.00	
Repairs and improvements,	429.68	
Janitor, cleaning, &c.,	1,411.24	
Fuel,	1,247.52	
Water,	32.36	
Lighting,	1,090.04	
Printing,	216.72	
Furniture,	582.97	
Stationery and postage,	646.21	
Books,	11,719.75	
Binding,	2,005.84	
Advertising,	110.00	
Telephone,	95.48	
Freight,	332.89	
Sundries,	324.70	
Proportion of expenses of Gymnasium,	1,253.95	
Insurance,	1,476.40	
Travelling expenses,	17.15	
Electric power,	50.00	
Catalogue,	251.33	
Diplomas,	300.16	
Expenses connected with proposed addition to **Austin** Hall,	6,237.50	91,168.04
		$91,968.04

TABLE NO. VI.

MEDICAL SCHOOL.

RECEIPTS.

Gifts for Capital Account.		
F. B. Greenough Fund (additional),		$500.00
Income of Funds for Instruction, or for general purposes.		
Medical School, balance,	$2,809.97	
Edward M. Barringer (part),	694.01	
John B. and **Buckminster Brown**,	954.72	
Amounts carried forward,	$4,458.70	$500.00

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

RECEIPTS.

Amounts brought forward, ...	$4,458.70	$500.00
Income of Funds for Instruction, etc. (*continued*).		
Caroline Brewer Croft (part), ...	1,500.00	
Calvin and **Lucy Ellis** (part), ...	16,750.73	
George Fabyan, ...	4,875.40	
Samuel E. Fitz, ...	85.92	
Henry Harris (½ income), ...	700.57	
Hersey Professorship (⅜ income), ...	378.47	
George Higginson, ...	4,741.87	
Jackson, ...	1,726.97	
William O. Moseley,.	2,475.72	
New subscription, ...	1,813.50	
Dr. Ruppaner, ...	436.93	
George C. Shattuck,.	3,020.88	
Mary W. Swett, ...	737.80	
Samuel W. Swett, ...	936.00	
Quincy Tufts, ...	93.60	
Henry Willard Williams, ...	1,576.27	46,309.33
Income of Fellowship Funds.		
Edward Austin (part) Teaching, ...	$2,000.00	
George Cheyne Shattuck Memorial, ...	249.02	
Charles Eliot Ware "	263.11	
John Ware "	247.11	2,759.24
Income of Scholarship Funds.		
Edward M. Barringer (part), ...	$500.00	
Lucius F. Billings, ...	240.83	
David Williams Cheever, ...	272.98	
Cotting Gift, ...	147.98	
Orlando W. Doe, ...	129.12	
Joseph Eveleth (part), ...	520.00	
Lewis and **Harriet Hayden**, ...	268.82	
William Hilton (part), ...	630.00	
C. M. Jones, ...	295.82	
Alfred Hosmer Linder, ...	247.34	
Charles B. Porter, ...	257.59	
Charles Pratt Strong, ...	213.31	
Isaac Sweetser, ...	297.04	
John Thomson Taylor, ...	247.25	
Edward Wigglesworth, ...	248.32	4,516.40
Income of Prize Funds.		
Ward Nicholas Boylston, ...	$165.67	
William H. Thorndike, ...	304.57	470.24
Amount carried forward, ...		$54,555.21

Table No. VI, Medical School, continued.

RECEIPTS.

Amount brought forward, ...			$54,555.21
Income of Sundry Funds and Gifts for special purposes.			
Edward Austin (Bacteriological Laboratory), .		$518.36	
Edward Austin (part), ...		200.00	
J. Ingersoll Bowditch, ...		292.36	
Ward Nicholas Boylston, for Medical Books,		129.59	
Caroline Brewer Croft (part), ...		651.37	
George Fabyan (part), ...		323.00	
F. B. Greenough (surgical research), ...		104.93	
Surgical Laboratory, ...		277.01	
Warren Fund for Anatomical Museum, ...		672.00	
Medical Library, ...		78.67	
Gifts for Pathological Department Library, ...		31.05	
" " Anatomical Research, ...		4.80	
" " certain work at the Surgical Laboratory, .		13.92	
" " advancing the knowledge of the Pathology of the Nervous System, ...		9.97	3,307.03
Gifts for present use, ...			5,050.00
Unexpended balance of appropriation returned, ...			.85
Receipts from students.			
Tuition fees, regular courses, ...	$75,038.75		
" " graduate courses, ...	1,380.00		
" " Dental students, ...	5,850.00	$82,268.75	
" " Summer courses, ...		5,075.00	
Graduation fees, ...		3,420.00	
Matriculation fees, ...		415.00	
Examination fees, ...		468.00	
Laboratory fees.			
Chemistry, ...	$1,232.38		
Embryology, ...	222.00		
Operative Surgery, ...	240.00		
Physiology, ...	394.07		
Practical Anatomy, ...	944.00	3,032.45	
Use of microscopes, ...		1,010.45	95,689.65
			$158,602.74

PAYMENTS.

From Fellowship Funds.		
Edward Austin, Teaching, ...	$2,000.00	
George Cheyne Shattuck Memorial, ...	225.00	
Charles Eliot Ware Memorial, ...	225.00	
John Ware Memorial, ...	225.00	$2,675.00
Amount carried forward, ...		$2,675.00

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

PAYMENTS.

Amount brought forward, ...		$2,675.00
From Scholarship Funds.		
Edward M. Barringer, ...	$500.00	
Lucius F. Billings, ...	280.00	
David Williams Cheever, ...	350.00	
Cotting Gift, ...	175.00	
Orlando W. Doe, ...	100.00	
Joseph Eveleth, ...	520.00	
John Foster, income for Medical Students (bal.),	91.58	
Lewis and **Harriet Hayden,**	279.26	
William Hilton, ...	630.00	
C. M. Jones, ...	150.00	
Alfred Hosmer Linder, ...	200.00	
Charles B. Porter, ...	120.00	
Charles Pratt Strong, ...	100.00	
Isaac Sweetser, ...	250.00	
John Thomson Taylor, ...	280.00	
Edward Wigglesworth, ...	200.00	
Faculty Scholarships, ...	880.00	5,105.84
From Prize Funds.		
Ward Nicholas Boylston, Advertising, . . .		20.82
From Sundry Funds and Gifts for special purposes.		
Edward Austin, appropriations, ...	$200.00	
" " (Bacteriological Laboratory), .	332.08	
J. Ingersoll Bowditch, Physiology, ...	326.73	
Ward Nicholas Boylston, Medical Books, . .	335.16	
Caroline Brewer Croft (part), cancer investigations, ...	195.07	
George Fabyan (part), services, ...	328.00	
F. B. Greenough Fund, Surgical Research, . .	521.49	
Gifts for Anatomical Research, ...	12.00	
Gifts for Pathological Department Library, ...	1,068.20	
Surgical Laboratory, ...	1,633.63	
Warren Fund for Anatomical Museum, ...	589.69	
Sundry Gifts, ...	538.48	6,070.53
Appropriations.		
Anatomy, ...	$2,750.00	
Bacteriology, ...	700.00	
Chemistry, ...	1,232.38	
Clinical Medicine, ...	50.00	
Clinical Surgery, ...	225.00	
Gynaecology, ...	25.00	
Histology and Embryology, ...	1,186.45	
Hygiene, ...	200.00	
Amounts carried forward, ...	$6,368.83	$13,872.19

Table No. VI, Medical School, continued.

PAYMENTS.

Amounts brought forward,	$6,368.83	$13,872.19
Appropriations (*continued*).		
Museum,	312.00	
Obstetrics,	250.00	
Pathology,	800.00	
Pharmacology and Therapeutics,	700.00	
Physiology,	4,307.41	
Surgery,	400.00	
Theory and Practice,	150.00	
Surgical Laboratory,	312.45	13,600.69
Graduate courses, fees repaid to Instructors,	$1,400.00	
Summer " " " "	4,400.00	5,800.00
Salaries for instruction,		102,091.66
General Expenses.		
Dean, and Secretary,	$800.00	
Clerical services,	1,881.75	
Repairs and improvements,	2,813.82	
Janitor and cleaning,	5,425.86	
Fuel,	2,602.97	
Water,	1,315.20	
Lighting and gas,	3,125.84	
Printing,	328.95	
Furniture,	88.77	
Instruments and apparatus,	21.50	
Stationery and postage,	178.42	
Advertising and catalogues,	1,652.00	
Insurance,	863.00	
Proctors,	210.00	
Mechanics and laboratory attendants,	6,831.52	
Electric power,	1,564.49	
Sundries,	470.69	
Supplies and material,	1,964.07	
Diplomas,	116.56	
Telephone,	180.00	
Time service,	25.00	32,460.41
		$167,824.95

TABLE NO. VI, CONTINUED.

Medical School Undertaking.

RECEIPTS.

Gifts received in 1902–03.			
Robert C. Billings Fund (additional), ...		$7,500.00	
George Fabyan Fund (additional), ...		25,000.00	
Jackson Professorship Fund (additional), . . .		12,500.00	
Proctor Fund for the Study of Chronic Diseases, .		50,000.00	
John D. Rockefeller Gift (additional), . . .		527,450.70	
Shattuck Professorship Fund (additional), . . .		12,500.00	
James Stillman Professorship Fund, ...		100,000.00	
David Sears Building Gift, ...		100,000.00	
Unrestricted Gifts, ...		62,250.00	$897,200.70
Income of Funds and Gifts.			
Robert C. Billings, ...		$4,688.05	
George Fabyan (addition of 1903), . .	$438.75*		
George Higginson Professorship, . .	4,741.87*		
Jackson Professorship (addition of 1902),	828.74*		
Henry L. Pierce, ...		16,576.56	
Proctor, for the Study of Chronic Diseases, . .		1,267.48	
John D. Rockefeller Gift, ...		23,961.60	
School of Comparative Medicine, ...		207.42	
David Sears Building Gift, ...		1,012.00	
Shattuck Professorship (addition of 1902),	$802.43*		
James Stillman Professorship, ...		4,484.98	
Gift for Pathological Laboratory (V. S.), ...		232.55	
Gifts for buildings, ...		358.27	52,788.91
Rebate on revenue stamps on deed, ...		$301.45	
Sale of old house, ...		100.00	401.45
			$950,391.06

PAYMENTS.

From **Robert C. Billings** Fund, for Journal of Medical Research, ...		$900.00
Real Estate, Huntington Avenue, Boston, ...	$22,000.00	
Sewer assessment, ...	491.51	
Legal services and expenses, ...	103.20	
Other expenses, ...	74.27	22,668.98
Building Expenses.		
Architects, Engineers, and other professional charges, ...		36,000.00
Interest on Advances, ...		18,214.31
		$77,783.29

* These items of income are entered in the Medical School table.

TABLE NO. VII.

DENTAL SCHOOL.

RECEIPTS.

Income of Funds and Gifts.			
Dental School, balance,		$1,498.77	
Dental School Endowment,		105.58	
Henry C. Warren Endowment,		1,076.40	
Gifts for new building,		930.01	$3,610.76
Receipts from students.			
Tuition fees,	$17,667.50		
Less transferred to Medical School,	5,850.00	$11,817.50	
Condition examination fees,		179.00	
Laboratory fees,		1,900.97	
Use of microscopes,		99.00	
Chemistry, breakage, and supplies,		150.76	14,147.23
Fees from infirmary,			4,683.52
Sale of sweepings,		$41.35	
" platinum,		111.61	
" scraps and old materials,		29.53	182.49
			$22,624.00

PAYMENTS.

Salaries for instruction,	$12,630.00	
Curator and Librarian,	150.00	
Secretary,	300.00	
Proctors,	135.00	
Repairs and improvements,	693.40	
Janitors and cleaning,	1,495.16	
Fuel,	525.10	
Water,	58.80	
Lighting,	454.80	
Printing,	104.43	
Furniture,	22.50	
Instruments and apparatus,	94.04	
Stationery and postage,	177.67	
Books,	36.77	
Binding,	57.80	
Advertising,	700.60	
Services and wages,	1,175.59	
Supplies, &c.,	4,282.25	
Sundries,	406.48	
Delegates' expenses,	43.35	
Diplomas,	27.00	
Catalogue,	74.10	
Telephone,	123.95	
National Association of Dental Faculties, dues,	50.00	$23,818.79

Table No. VIII.

MUSEUM OF COMPARATIVE ZOÖLOGY.

RECEIPTS.

Income of Funds.			
Museum of Comparative Zoölogy (balance), . . .		$1,608.56	
Agassiz Memorial, ...		13,943.26	
Teachers and Pupils, ...		355.40	
Virginia Barret Gibbs Scholarship, ...		257.92	
Gray Fund for Zoölogical Museum, ...		2,340.00	
Sturgis Hooper, ...		5,044.71	
Humboldt, ...		362.28	
Willard Peele Hunnewell, ...		234.00	
Permanent Fund for Museum of Zoölogy, ...		5,497.55	
Henry L. Pierce, ...		4,680.00	$34,323.68
Gifts for an aquarium. Gifts, ...	$1,714.36		
Interest, ...	10.33	1,724.69	
Gift for work in the Palaeozoic room, ...		34.48	
Use of lecture rooms by Radcliffe College, ...		700.00	2,459.17
			$36,782.85

PAYMENTS.

Paid on the order of the Faculty of the Museum of Comparative Zoölogy, from the following Funds, &c.			
Balance of August 1, 1902 (part), ...		$5,336.38	
Income of balance, ...		1,608.56	
Agassiz Memorial, ...		13,943.26	
Teachers and Pupils, ...		355.40	
Gray, ...		2,340.00	
Humboldt, ...		362.28	
William Peele Hunnewell, ...		234.00	
Permanent, ...		5,497.55	
Henry L. Pierce, ...		4,680.00	
Receipt for use of rooms, ...		700.00	$35,057.43
Virginia Barret Gibbs Scholarship, ...		$250.00	
Sturgis Hooper. Salary, ...	$5,000.00		
Expenses, ...	125.14	5,125.14	5,375.14
Aquarium (part), ...		$1,615.31	
Work in the Palaeozoic room, ...		34.48	1,649.79
			$42,082.36

Table No. IX.

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

RECEIPTS.

Income of Funds.		
Hemenway Fellowship,	$536.70	
Peabody Building,	1,410.57	
Peabody Collection,	2,354.67	
Peabody Professor,	2,354.67	
Thaw Fellowship,	1,148.90	
Henry C. Warren Exploration,	505.21	
Susan Cornelia Warren,	234.00	
Robert C. Winthrop Scholarship,	250.94	
Huntington Frothingham Wolcott,	983.92	$9,779.58
Use of heating plant,		150.00
Gifts for present use,		634.00
		$10,563.58

PAYMENTS.

Hemenway Fellowship,	$425.00	
Thaw Fellowship,	1,160.24	
Robert C. Winthrop Scholarship,	200.00	$1,785.24
Henry C. Warren Fund, explorations,		953.23
Salary of Professor and Curator,	$2,388.41	
Services and wages,	2,276.40	
Repairs and improvements,	99.18	
Janitor and cleaning,	656.11	
Fuel,	278.43	
Water,	25.00	
Lighting,	14.80	
Printing,	46.81	
Furniture,	1,402.96	
Stationery and postage,	149.13	
Telephone,	32.27	
Books,	92.46	
Binding,	51.29	
Insurance,	10.00	
Collections,	460.50	
Freight,	234.59	
Supplies,	396.46	
Mississippi Valley exploration,	547.75	
Railroad fares,	60.00	
Sundries,	66.28	
Interest on advances,	113.93	$9,402.76
		$12,141.23

Table No. X.

OBSERVATORY.

RECEIPTS.

Gift for Capital Account.			
Robert Treat Paine Fund (additional),			$374.21
Income of Funds and Gift.			
Advancement of Astronomical Science (1902).			
Interest (part),	$453.24		
Gift,	200.00		
Sales,	30.02	$683.26	
Anonymous Gift (1902),		541.56	
Thomas G. Appleton,		234.00	
J. Ingersoll Bowditch,		117.00	
Uriah A. Boyden,		9,360.00	
Charlotte Harris,		93.60	
Haven,		2,106.00	
James Hayward,		982.80	
Observatory Endowment,		2,340.00	
Paine Professorship,		2,340.00	
Robert Treat Paine,		12,814.17	
Edward B. Phillips,		5,161.76	
Josiah Quincy,		574.47	
James Savage (½ net income),		416.40	
David Sears,		1,709.23	
Augustus Story,		626.18	40,100.43
Gifts for publishing Lunar Photographs.			
Gifts,		$700.00	
Interest,		8.39	708.39
Mrs. Henry Draper, gift for special research (additional),			9,999.96
Use of house by College officer,		$600.00	
Sale of Annals,		40.37	
" lantern slides,		3.00	
" grass,		35.00	678.37
Trustees of **Sturgis** Fund, on account of printing Annals,			2,756.77
Gift for immediate use,			500.00
			$55,118.13

PAYMENTS.

From Anonymous Gift (1902), addition to brick building,	$4,277.02	
Reflector, cases, and sundries,	2,243.34	$6,520.36
" Advancement of Astronomical Science Fund (1902),		216.50
" **Uriah A. Boyden** Fund, supplies, apparatus, services, &c.,		10,000.64
" **Draper** Memorial, supplies, apparatus, services, &c.,		7,251.70
" Gifts for publishing Lunar Photographs,		875.48
Salaries,	$15,700.00	
Services and wages,	7,459.67	
Amounts carried forward,	$23,159.67	$24,864.68

TABLE NO. X, OBSERVATORY, CONTINUED.

PAYMENTS.

Amounts brought forward,	$23,159.67	$24,864.63
Repairs and improvements,	2,433.22	
Cleaning and care of Observatory,	601.45	
Labor,	1,570.00	
Fuel,	708.97	
Water,	52.09	
Lighting,	146.89	
Printing,	2,107.25	
Furniture,	362.16	
Instruments and apparatus,	378.24	
Stationery, postage, and telegraphing,	708.52	
Telephone,	127.21	
Books,	504.20	
Binding,	618.16	
Supplies and materials,	900.93	
Freight,	266.17	
Sundries,	12.35	
Use of house,	90.00	
Electric power,	79.09	
Interest on advances,	146.09	34,962.66
		$59,827.29

TABLE NO. XI.

BUSSEY INSTITUTION.

RECEIPTS.

Income of Funds.		
Bussey Institution (balance),	$1,256.16	
Bussey Trust (½ net income),	5,898.21	$7,154.37
Tuition fees,		3,565.00
Sale of wood, hay, and sundries,	$300.78	
Horticultural Departm't, prizes, sale of flowers, plants, &c.,	2,646.27	
Board of animals,	5,517.97	
Use of house by College officer,	600.00	9,064.97
		$19,784.34

PAYMENTS.

Salaries,	$8,000.00
Services and wages,	3,081.70
Repairs and improvements,	442.54
Fuel,	599.20
Gas,	41.30
Water,	21.40
Printing,	91.14
Furniture,	4.10
Amount carried forward,	$12,281.38

TABLE NO. XI, BUSSEY INSTITUTION, CONTINUED.

PAYMENTS.

Amount brought forward,	$12,281.38	
Stationery and postage,	25.64	
Books,	85.51	
Instruments and apparatus,	102.00	
Insurance,	470.80	
Horticultural Department, expenses,	2,559.21	
Grain, farming tools, &c.,	2,099.69	
Legal expenses,	21.74	
Diplomas,	10.60	
Diploma plate,	150.00	
Horse,	75.00	
Steam heating plant at Mansion House,	954.50	
Sundries,	29.90	$18,865.97

TABLE NO. XII.

ARNOLD ARBORETUM.

RECEIPTS.

Gifts for capital account.				
Arnold Arboretum Fund (additional),				$6,475.00
Income of Funds.				
Arnold Arboretum,			$5,628.31	
James Arnold,			7,456.60	
William L. Bradley.	Interest,	$1,034.75		
	Gift,	600.00	1,634.75	
Gifts for construction,			295.22	15,014.88
Sale of grass and materials,			$1,682.75	
Gift for present use,			1,375.00	3,057.75
				$24,547.63

PAYMENTS.

William L. Bradley Fund, bibliography,	$1,041.46	
Salaries of Director and Assistant,	3,500.00	
Repairs and improvements,	241.57	
Labor,	6,021.84	
Fuel,	371.07	
Water,	49.00	
Printing,	4.30	
Furniture,	151.00	
Stationery and postage,	194.53	
Services and wages,	4,664.13	
Supplies, tools, and materials,	751.94	
Freight,	284.65	
Rent of land leased from Adams Nervine Asylum,	150.00	
Expenses of expeditions for collecting,	76.95	
Sundries,	15.71	$17,518.15

Table No. XIII.

MISCELLANEOUS FUNDS.

Sundry Funds for Special Purposes.

Receipts.

Income of Funds, Gifts, &c.			
Advancement of Astronomical Science (1901), . .		$2,357.83	
" " " " (1902) (part),		453.25	
Edward Austin. Interest, ...	$22,272.91		
Less appropr'ns as per tables II and VI,	17,633.88	4,639.03	
Bussey Trust, net income from Real Estate, . .		15,796.42	
Class of 1834, ...		52.03	
" **1844,**		300.53	
" **1853,**		149.00	
Caroline Brewer Croft (part), ...		2,151.88	
Calvin and **Lucy Ellis** "		93.91	
Calvin and **Lucy Ellis** Aid (part), ...		335.33	
Gifts for additions to The Soldier's Field, ...		94.23	
Gifts for Cuban Teachers, ...		1.33	
Gospel Church (½ income), ...		147.98	
Gurney (part), ...		1,000.00	
Charles L. Hancock (part), ...		41.86	
Harvard Memorial Society, ...		61.78	
Robert Troup Paine (accumulating), ...		1,485.23	
Professorship of Hygiene (part), ...		3,634.97	
John W. and **Belinda L. Randall,**		252.81	
Nelson Robinson Jr., ...	$20,420.57		
Less amount entered in Table II, .	15,420.57	5,000.00	
Alexander W. Thayer (part), ...		480.00	
Charles Wilder, ...		1,872.00	
Daniel Williams, ...		778.94	
Sarah Winslow, ...		224.41	
Woodland Hill.			
Land taken by the City of Boston for widening Walter Street, ...	$4,827.00		
Sewer easement taken by the Commonwealth, ...	10,000.00		
Interest, ...	903.10	15,730.10	$57,083.85

Payments.

From the following Funds and Gifts.	
Advancement of Astronomical Science (1901), annuity, ...	$2,380.51
Advancement of Astronomical Science (1902), annuity, ...	316.22
Amount carried forward, ...	$2,696.73

TABLE No. XIII, MISCELLANEOUS FUNDS, CONTINUED.

Sundry Funds for Special Purposes (*continued*).

Payments.

Amount brought forward, ...			$2,696.73
From the following Funds and Gifts (*continued*).			
Bussey Trust. Annuities, ...	$4,000.00		
One half of the remaining income to the **Bussey** Institution, ...	5,898.21		
One quarter to the Divinity School,	2,949.11		
One quarter to the Law School, . .	2,949.10	15,796.42	
Class of 1853, Secretary of the Class, ...		149.00	
Caroline Brewer Croft, annuity, ...		2,208.60	
Calvin and **Lucy Ellis,** taxes, ...		93.91	
Gifts for Cuban Teachers, expenses, ...		150.00	
" Additions to The Soldier's Field, land, . .		5,242.96	
" Improvements and Additions to The Soldier's Field, real estate, ...		6,257.04	
" Land in New Hampshire, ...		1,692.52	
Gurney, annuities, ...		1,000.00	
Charles L. Hancock, taxes on Chelsea real estate, ...		41.36	
Harvard Memorial Society, Treasurer of the Society, ...		120.26	
Pennoyer Scholarships, postage and commissions on income, paid Baring Bros. & Co., ...		29.15	
Professorship of Hygiene.			
Annuity, ...	$2,000.00		
Legal expenses, ...	15.75	2,015.75	
John W. and **Belinda L. Randall,** Harvard Social Service Committee, ...		100.00	
Alexander Wheelock Thayer, annuity, . .		480.00	
Charles Wilder, annuity, ...		1,920.00	
Daniel Williams.			
Treasurer of Mashpee Indians, . . .	$523.84		
" " Herring Pond Indians, .	256.12	779.96	
Sarah Winslow,			
Teacher at Tyngsborough, Mass., . . .	$112.09		
Commission on income, credited to Univ.,	5.61	117.70	
Woodland Hill.			
Taxes, ...	$1,000.48		
Cost of wall on Walter Street (part),	2,201.50	3,201.98	$44,093.34

TABLE NO. XIII, MISCELLANEOUS FUNDS, CONTINUED.

Construction Accounts.

Receipts.

Emerson Hall.			
Gifts,	$115,595.75		
Interest,	518.87	$116,114.62	
New Library Building,		10,000.00	
Pierce Hall, Gift,		750.00	
Semitic Building. Repayment,	$202.68		
Interest,	141.02	343.70	
John Simpkins Hall, Interest,		50.78	
Stillman Infirmary. Gift,	$50,000.00		
Interest (part),	375.53	50,375.53	
University Museum, interest,		128.53	
Gifts for Improvements and Additions to The Soldier's Field.			
Gifts,	$20,000.00		
Interest,	2,772.64	22,772.64	$200,535.80

Payments.

Emerson Hall.			
Architects, services,	$176.00		
Treasurer of Committee, for expenses,	1,042.80	1,218.80	
Pierce Hall, construction, furniture, and equipment,		5,055.14	
Semitic Building and furniture,		7,309.60	
John Simpkins Hall,		624.54	
Stadium,		27,978.22	
Stillman Infirmary, construction, furniture and equipment,		2,518.06	
University Museum,		344.29	$45,048.65

Sundry Accounts.

Receipts.

Bursar's Sundry Accounts,		$476,424.97
Advances from General Investments to		
Botanic Department,	$1,590.63	
Uriah A. Boyden Fund,	640.64	
Hayward Book Fund,	18.79	
Medical School Undertaking,	13,179.64	
Observatory,	440.99	
Peabody Museum of American Archaeology and Ethnology,	844.91	
Sundry Accounts,	731.83	17,447.43
Gains and Losses for General Investments.		
Gain on sale of United States 4's of 1925,	$85,662.61	
" " Baltimore & Ohio Conv. Deb. 4's of 1911,	10,039.50	95,702.11
Amount carried forward,		$589,574.51

TABLE No. XIII, MISCELLANEOUS FUNDS, CONTINUED.

Sundry Accounts (*continued*).

Receipts.

Amount brought forward,			$589,574.51	
Gains from change of Special Investments.				
Calvin and **Lucy Ellis** Fund.				
Gain on sale of real estate in Boston,		$1,600.00		
Calvin and **Lucy Ellis** Aid Fund.				
Gain on sale of real estate in Boston,		1,600.00		
Mary L. Whitney Scholarship Fund.				
Gain on sale of City of Laramie 10–30 6% Funding Bonds,		10.56	3,210.56	
Sundry balances,			2,494.00	
Transfers to				
Dexter Lectureship Fund, from Divinity School,		$5.263.99		
Henry L. Pierce Building Fund, from **Henry L. Pierce** Residuary Bequest,		4,305.14	9,569.13	$604,848.20

Payments.

Bursar's Sundry Accounts,			$478,865.80	
Advances from General Investments, repaid by				
Classical Publication Fund of the **Class of 1856**,		$348.19		
Caroline Brewer Croft Fund,		85.70		
Fund for the Advancement of Astronomical Science (1902),		17.56	451.45	
Losses from change of Special Investments.				
David Ames Wells Fund.				
Loss on sale of $1,000 The Electric Corporation 7's of 1992,		$25.40		
Pennoyer Scholarship Fund.				
Loss on sale of Asten's Farm, Pulham, Norfolk, England,		455.22		
Rumford Professorship.				
Commission paid Baring Bros. & Co. on account of French Rente, sold in 1888,	$141.83			
Less balance of proceeds of sale of French Rente, in 1888,	69.31	72.52	553.14	
Mary R. Searle Fund,				
New York State tax on transfer of securities,			76.50	
Transfers from				
Divinity School, to **Dexter** Lectureship Fund,		$5,263.99		
Henry L. Pierce Residuary Bequest, to **Henry L. Pierce** Building Fund,		4,305.14	9,569.13	$489,516.02

GENERAL SUMMARY OF THE TABLES.

Table.		Receipts.	Payments.
I.	University,	$187,376.02	$142,102.15
II.	College,	1,356,175.61	803,237.53
III.	Library,	53,596.04	71,699.04
IV.	Divinity School,	86,080.08	43,122.28
V.	Law School,	125,519.00	91,968.04
VI.	Medical School,	158,602.74	167,824.95
	" " Undertaking,	950,391.06	77,783.29
VII.	Dental School,	22,624.00	23,818.79
VIII.	Museum of Comparative Zoölogy,	36,782.85	42,082.36
IX.	**Peabody** Museum of American Archaeology and Ethnology,	10,563.58	12,141.23
X.	Observatory,	55,118.13	59,827.29
XI.	**Bussey** Institution,	19,784.34	18,865.97
XII.	**Arnold** Arboretum,	24,547.63	17,518.15
XIII.	Sundry Funds for Special Purposes,	57,083.85	44,093.34
	Construction Accounts,	200,535.80	45,048.65
	Sundry Accounts,	604,848.20	489,516.02
		$3,899,628.93	$2,150,649.08
		2,150,649.08	
	Net increase of the Funds and balances,	$1,748,979.85	
	Deduct gifts for capital account,	1,340,876.28	
	Balance, which is the net increase of Funds and balances, excluding gifts for capital account, as is also shown on page 60,	$408,103.57	

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THE UNIVERSITY PUBLICATION
Volume II. No. 4

REPORTS

OF

THE PRESIDENT AND THE TREASURER

OF

HARVARD COLLEGE

1903–04

CAMBRIDGE, MASS.
Published by Harvard University
JANUARY 30, 1905

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PRESIDENT'S REPORT FOR 1903-04.

To the Board of Overseers: —

The President of the University has the honor to submit the following report for the academic year 1903–04, — namely, from October 1, 1903, to September 29, 1904.

Samuel Hoar, Overseer 1887–1894, and Fellow 1894–1904, died on the 11th of April, 1904, in the fifty-ninth year of his age.

The untimely death of Samuel Hoar was a great public loss. He was a strong lawyer, ready for combat, eager in attack, firm in defence, a public-spirited citizen who believed in the New England liberties and the New England democracy, and a steady supporter of all the institutions through which a free people maintains learning and piety. His professional knowledge and experience were always at the service of the President and Fellows. His quick grasp of difficult subjects and his sagacious courage enlightened and animated his colleagues, while his disinterestedness and cheerfulness encouraged them in all their efforts to serve well the University and American education.

George Frisbie Hoar, Overseer 1873–1879 and 1896–1904, died on the 30th of September, 1904, in the seventy-ninth year of his age.

He was three times chosen an Overseer by the alumni, and was always glad to give his counsel to the University, so far as the engrossing duties of his public functions permitted; but the chief way in which he served the University was by illustrating on the most conspicuous stage the republican ideal of a public life inspired by worthy sentiments and affections, simple, disinterested, and earnest, and guided by well-read lessons from history and biography, and a deep-rooted religious faith. All his life he stood for the old-fashioned New England virtues of the modest home, the county court-house, the town meeting, and the village church. The local conditions which moulded him have changed, and he is probably the last of his type — a noble type.

The number of deaths among the students in Cambridge was a little larger in 1903–04 than in the preceding year. There were in all twelve deaths, of which seven occurred away from the University and five in Cambridge. Of these last, four occurred at the Stillman Infirmary, — two of pneumonia and two of appendicitis. There was no death during the year in the teaching staff — 550 persons.

At the close of the year Professor Adams Sherman Hill resigned the Boylston Professorship of Rhetoric and Oratory, a professorship established by the College one hundred years before (in 1804), and held by only five persons during the hundred years, — John Quincy Adams, Joseph McKean, Edward Tyrrel Channing, Francis James Child, and Adams Sherman Hill. Professor Hill was first appointed to an assistant professorship in 1872, and was promoted to the Boylston Professorship in 1876. He had therefore served in the English Department for thirty-two years, and had been the head of the Department for twenty-eight years, especially in that work of the Department which relates to the writing and speaking of good English. By his published books on this subject his influence has been extended far beyond the walls of the University. When he entered the service of the College, there was no examination in English for admission; and there was hardly a secondary school in the country which gave systematic instruction in English literature or in the accurate writing of English. In the great change which has come over American colleges and secondary schools in this respect Professor Hill has been an inspiring leader and a judicious guide. The native language has won a place in both schools and colleges, and a new generation of teachers of English has been trained for their service. Although retired, Professor Hill continues to direct an advanced course in writing English which he instituted and has long taught effectively.

Dr. John Orne Green, who had taught otology in the Medical School for thirty-three years as lecturer, instructor, and professor, resigned at the end of the year 1903–04. The rules of the best Boston hospitals, which set a rather early age limit to the active service of their physicians and surgeons, cause the Medical School to lose the services of valued clinical professors at an age which, in some instances, seems unnecessarily early. It is not for the University, however, to question the wisdom of these rules, which are the result of long experience and of disinterested regard for the welfare of hospital patients.

Dr. Thomas Fillebrown, a graduate of the Harvard Dental School in 1869 with its first Class, and Professor of Operative Dentistry from 1883 to 1904, resigned his office at the close of the year under consideration, because he felt that he was reaching the limit of age which every clinical professor should respect, whether in hospital service or not. Dr. Fillebrown's influence as a professor in the Dental School was always in favor of a high standard for admission, of a long School course, and of effective work during the whole course. He contributed actively to the building up of the School in numbers and efficiency.

Professor William Barker Hills, instructor in chemistry from 1874 to 1884, assistant professor in the Medical School from 1884 to 1889, and associate professor in the same School from 1889 to 1904, resigned his office at the close of the year, and took charge of a laboratory devoted to the various chemical and physiological testings which are now applied to candidates for life insurance — a very useful kind of work, for which his training and experience had admirably fitted him.

The School of Veterinary Medicine having ceased to exist, and the President and Fellows having, at the recommendation of the Faculty of Arts and Sciences, reinstituted the degree of Mining Engineer and instituted the degree of Metallurgical Engineer, the statutes of the University were amended by striking out all reference to the School of Veterinary Medicine, and by inserting the words "Mining Engineer, Metallurgical Engineer" after the words "Civil Engineer" in the 9th Statute. It is the expectation of the Faculty of Arts and Sciences to recommend persons for the degree of Mining Engineer or

Metallurgical Engineer who complete one year of approved study after receiving the degree of Bachelor of Science in mining and metallurgy.

The new opportunity to take degrees in the middle of the year was used by forty persons in March, 1904, although the notice of the opportunity had been but short. The degrees taken were distributed as follows:—

A.B.	S.B.	A.M.	Ph.D.	D.M.D.	M.D.	LL.B.	S.T.B.
19	3	2	1	1	12	1	1

Some of these forty persons had come in the middle of the year to the natural close of their studies; and some had made up deficiencies in their earlier records. For practical reasons all were glad to get their respective degrees as soon as they were entitled to them. This is another evidence of the immediate pecuniary and social value of university degrees.

On the 25th of April, 1904, the President and Fellows received from the Board of Overseers the following resolution which had been unanimously adopted by that Board on April 13th:—

"*Resolved*, that the Board of Overseers request the President and Fellows either to take action in conformity with the recommendation of the Committee on Fine Arts and Architecture in regard to an advisory committee of experts to be consulted respecting the buildings of the University, or to devise a preferable scheme for the accomplishment of the end in view, and to report their proceedings in the matter to this Board."

Whereupon the President and Fellows requested the Overseers to appoint a committee of three to confer with two members of the Corporation on this subject.

In June the Board of Overseers appointed Messrs. Norton, Hemenway, and Grant, a committee of conference on the subject presented in the above resolution of the Board. The President of the University and Dr. Arthur T. Cabot had already been appointed on behalf of the Corporation. This joint committee held a conference on the subject, discussing several methods of operation, but deciding on none. The President and Fellows subsequently decided to try one of the methods which had been mentioned at the conference, namely, that every new site for a building and the plans for every new building should be submitted to a committee formed from among the surviving architects who had served the University professionally. They accordingly invited a committee, consisting of Messrs. Robert S. Peabody, Francis W. Chandler, and George R. Shaw, to examine the plans submitted by Messrs. Shepley, Rutan, and Coolidge for a building to be annexed to Austin Hall, and to give their advice to the Corporation. This committee made a careful study of the subject, and then advised the President and Fellows not to execute the design prepared by Messrs. Shepley, Rutan, and Coolidge from instructions given by members of the Law Faculty, and not to put any building on the site which had been suggested for the new design. Messrs. Shepley, Rutan, and Coolidge added their names to the report of the committee to indicate that the judgment of the committee was the same as their own. The advice procured in this manner has arrested the project, and no new one has taken its place, much to the regret of the Law Faculty.

This method of procuring professional advice concerning new sites and buildings commended itself to the Corporation and to the architects concerned. The plan is, therefore, likely to be tried again at the next opportunity. When the Corporation offered to compensate the advising committee, all three members declined compensation.

On the 16th of May, 1904, the President and Fellows received the following communication from the Corporation of the Massachusetts Institute of Technology: —

CHARLES W. ELIOT, ESQ.,
President, Harvard University, Cambridge, Massachusetts.

DEAR SIR: —

At a meeting of the Corporation of the Massachusetts Institute of Technology, held on May 4, the following resolution was passed: —

"*Voted*, that the Executive Committee be requested to ascertain whether any arrangement can be made with Harvard University for a combination of effort in technical education such as will substantially preserve the organization, control, traditions, and the name of the Massachusetts Institute of Technology."

In compliance with this action the Executive Committee of the Corporation of the Institution has appointed Mr. Henry S. Pritchett and Mr. A. Lawrence Lowell as a sub-committee to confer with the Corporation of Harvard University, or with another committee which it may appoint.

Sincerely yours,

(Signed) HENRY S. PRITCHETT,
MAY 13, 1904. *President.*

The President and Fellows immediately voted that a committee be appointed to confer with the above-mentioned subcommittee of the Corporation of the Massachusetts Institute of Technology; and the President appointed Dr. Walcott and the Treasurer, Mr. Adams, to serve on the committee of conference. This joint committee has had the subject under advisement ever since last May, but has not yet produced a definite scheme for bringing about the proposed combination of effort on behalf of technical education.

In March, 1904, the Corporation ordered that from and after August 31, 1904, the tuition-fee should be paid in advance by every student in the Cambridge departments of the University as follows: (1) within two weeks of the beginning of the academic year three-fifths of his year's fee, or the whole of his year's fee if it does not exceed three-fifths of the maximum fee for the year in the department to which he belongs; (2) before the beginning of the second half-year the remainder of his fee for the year. They also directed that from the same date term-bills should be issued by the Bursar for all dues to the University not tuition-fees, and should be paid as follows: the first term-bill before the beginning of the second half-year, and the second term-bill by all candidates for degrees at least one day before Commencement and by all other students on or before July 25.

Students in the Boston Departments of the University were required, from and after September 1, 1904, to pay in advance the dues incurred in these departments, as follows: Tuition-fees in accordance with the vote of March 28, 1904, and the matriculation fee at the beginning of the academic year, the laboratory fees and other similar fees at the beginning of the year or half-year at which the instruction is given, and the examination fees for the removal of conditions at least one day before the examinations are given.

It had been the custom of the University to give long credit for the payment of tuition-fees and all other charges. Thus, a student who began his work at the end of September was not supposed to make any payment to the University for at least four months, and payment was often much longer delayed. Again, the bills for the second half-year were not supposed to be due till the following October. This custom was, of course, disadvantageous to the University through loss of interest. It was contrary to the practice of American institutions of education in general; and was believed by most of the administrative officers of the University to be less expedient for the students themselves than payment in advance. The new measures were successfully carried out, without serious difficulty, at the opening of the present academic year, the Deans of the several departments being given discretion to provide some relief for students in narrow circumstances who found themselves obliged to meet at the same time the deferred charges for the last half of the year 1903–04 and the advance charges for the first half of the year 1904–05. This is one of several administrative improvements which have resulted from the careful search for means of increasing legitimate revenue and doing away with unnecessary, though customary, expenditure.

In connection with the general efforts to reëstablish the proper relation between the receipts and the expenditures of Harvard College, the Scientific School, and the Graduate School taken together, the fees charged in the laboratory courses offered by the Faculty of Arts and Sciences were examined and compared anew; and a revised scale of fees was adopted in February, to take effect September 1, 1904. The new scale will increase somewhat the total amount of these fees, and will therefore place in the hands of the departments which maintain laboratory courses a somewhat larger sum of money to expend at their own discretion on equipment, repairs, and service in the several laboratories. A laboratory fee is a peculiarly just charge on the individual student; for it is the payment for specific facilities and services which he receives, but which a student who is not a member of that laboratory course does not receive. Laboratory fees charged to students amounted in 1903–04 to $33,535.19. This money is all expended for the benefit of the laboratories under the direction of the chairmen of the several departments and by their order.

One of the most encouraging events of the year 1903–04 in Harvard College was the progress made towards acceptance of the examinations conducted at many points scattered all over the United States by the College Entrance Examination Board in lieu of the examinations conducted exclusively by Harvard College with its own question-papers and its own readers. The College Entrance Examination Board has united a large number of colleges and universities in the conduct of admission examinations in both preliminary and advanced subjects, using question-papers prepared by carefully selected committees representing both colleges and secondary schools, the answer-papers being read by readers appointed by the Board from a large number of different colleges. It is obvious that the work of the Board tends strongly to common definitions of the subjects of examination and to common standards of examination on those subjects, and that these definitions and standards will in time regulate and simplify the preparatory work done in the secondary schools of the country. The Harvard Faculty of Arts and Sciences, having watched with interest the work of this Board from its beginning in 1900, came to the conclusion last spring that it was ready to accept membership in the Board, and to do its part in making its work increasingly successful and useful. Professor Briggs, Dean of the Faculty, Professor Hurlbut, Dean of Harvard College, and Professor Horatio S. White have represented the Harvard Faculty of Arts and Sciences before the Board, and Dean Briggs gives in his report (p. 90) a brief account of the present stage of this interesting development.

One proposition contained in the report of the Committee on Improving Instruction — the clause numbered 4 on page 94 — was never much discussed in the Faculty of Arts and Sciences, and has not been accepted or acted on in the subsequent discussions, — the proposition, namely, that all courses should be made as nearly as possible of equal weight. On the contrary, the Faculty now accepts the doctrine that courses in such a variety of subjects as the Faculty of Arts and Sciences deals with, necessarily conducted in different methods and with different objects in view, must and should differ in regard to the amount of work they call for from the student. The present efforts of the Faculty are directed to grading the different courses correctly: so that a course which calls for little work shall advance a student but little towards his degree, while a course that calls for much work shall count much towards the degree. To the recent proposals of the Faculty concerning improving the College instruction, stimulating scholarly ambition, and preventing shirks and malingerers from obtaining the A.B., the final form has not yet been given; but encouraging progress was made in the year 1903–04.

The large courses in Harvard College on the elements of English composition, history, government, economics, and philosophy, and the elementary course called Geology 4, have recently been the subject of much discussion. The last-mentioned course has been given up for the present as a course which may be counted towards the degree of A.B. The other large courses, including the first course in English, called English *A*, seem to be indispensable and highly serviceable. Nobody proposes that they should be abolished; but all agree that they might be made still more efficient than they are, by the expenditure of more money upon them in the employment of more assistants, at higher pay, for a larger number of hours per week. In these courses a considerable amount of lecturing by masters of the various subjects is indispensable; but careful work by young assistants, dealing with not more than 20 men at a time, and dealing with them often, is also indispensable, for reiterating the instructions of the Professor, securing an adequate amount of reading by each individual, and enforcing frequent, short tests written in the presence of the assistant. In all these large courses, satisfactory methods have been worked out and proved to be good;

so that the only remaining question is to find means of providing the numerous teachers required to carry out these sound methods. They are all costly. In every large elementary course a question is presented to every member of the class at least once a week which must be answered in writing in the presence of the assistant. The weekly conferences are a fundamental part of the work of the course; and the weekly marks have a large share in determining the student's mid-year and final record. A pass mark at examinations does not outweigh failure at all or most of the weekly conferences; and all students who fail frequently at the weekly conferences are warned. Fortunately these methods are useful to good students as well as to bad. In general, they strengthen that moral influence of teacher on student which is the essential element in any academic system.

English *A*, the largest of these courses, has been effectively conducted for many years. The largest of the Elective courses in 1903–04 was Economics 1, with 520 students. This fact simply means that nearly every student in Harvard College wishes to take this course at some time during his residence, a sensible desire which ought to be gratified in the most thorough possible manner. (Compare p. 94, paragraphs numbered 5, 6, 7 and 9.)

The Junior Class having manifested an interest in getting many of its members into the College Yard for the last year of their residence in Harvard College, and having expressed the opinion that certain improvements in the interior arrangements of Hollis and Stoughton Halls, including the introduction of more bath-rooms and of steam heat, would promote such a movement of members of their class to the Yard, the Corporation replied to a petition of the class that they had no money to spend on Hollis and Stoughton Halls, but would direct that the proposed changes be made, provided they should be furnished with money to meet the cost thereof, and that they were disposed to continue the experiment of giving preference to students in the Senior Class, or in the two upper classes, in the assignment of rooms in certain dormitories, and of allowing students to apply for rooms in groups of four or more persons. The money necessary to pay for the improvements and alterations was raised, and the changes were made during the summer vacation. Preference was given to students in the Senior Class of the year now current in Hollis, Stoughton, and Holworthy Halls. In consequence of these changes, the rents of rooms in Hollis and Stoughton Halls have been somewhat increased, and a charge for heating has also been imposed. The object which the petitioners had in view does not seem to have been accomplished as yet; but the duration of the experiment is too short to enable the Corporation to decide on the merits of the new policy.

The Dean of Harvard College and the Medical Visitor again report that an undue proportion of the undergraduates abandon their work for insignificant illnesses, or allege imaginary illnesses in excuse for absences. This is another case of the creation among inconsiderate students of a convention which justifies them in signing statements addressed to the College authorities which they know are not true. Young men do this without concern who would be indignant if told that they were liars or cheats. It is an ignoble and demoralizing practice; but its chief damage falls on the individuals who practise it. It is they who become flabby and untrustworthy as regards the discharge of duty. The remedies which the Medical Visitor suggests are, first, that no excuse be expected for an absence of less than five days' duration; and, secondly, that no excuse on the ground of illness be accepted for absence of five days or more except when accompanied by the attending physician's certificate. The Dean would prefer (p. 114) a method by which every undergraduate who wishes to be excused from duty because of sickness should report, or be reported, at once to the Office, and then be examined immediately by a competent physician authorized to decide on the validity of the proposed excuse. The Dean demonstrates (p. 113) that this evil abounds most in the luxurious dormitories, just as one would expect. In 1900, the Medical Visitor gave a similar demonstration. The Faculty has done nothing about this difficult subject. In the meantime, the "signing-off" process remains for the honest mass of the students in Cambridge a valuable protective method, since it enables the Medical Visitor to deal quickly with real cases of illness.

The Scientific School has now reached the limit of its effort to raise the standard of admission to the School, and has accomplished a valuable improvement without causing any serious reduction in the number of its students. The requirements for admission to the technical schools of the country have always been much lower than the requirements for admission to the colleges; and in most technical schools they still remain so, to the great injury of the schools of technology on the one hand, and of the high schools of the country on the other. For many years the Lawrence Scientific School was no exception to this rule; but it now requires as many "points" for admission as Harvard College requires — namely, twenty-six — and it endeavors in practice to live up to its requirements, as the following table demonstrates: —

1903.	Admitted.	Admitted "Clear."	Rejected.
June	41	2	40
September	34	..	18
Total	75	2	58
1904.			
June	40	6	36
September	37	2	30
Total	77	8	66

For admission as regular students there appeared in the summers of 1903 and 1904, 276 candidates, of whom 152 were admitted and 124 were rejected, — a large proportion of rejections. Of the 124 persons rejected, 60 were, however, admitted as Special Students, of whom 58 had passed in at least thirteen points. It is possible for the Special Student so admitted to attain the degree by good work done in the School itself, as it is in the Law School; but he is of course handicapped in the race from the start. Deducting these 60 that were admitted as Special Students, there remain 64 who were absolutely rejected, being nearly one-fourth of all the candidates. This percentage of rejection is much higher than it is in Harvard College (p. 102). The reason for this large percentage of rejection is mainly this — that candidates come to the admission examinations who have attended schools which are really incapable of preparing them to pass safely an examination of such scope and severity as the Scientific School now sets. The Faculty has the firm belief that the School will ultimately profit by this high standard, and that a school of high standard is the only one which the University should provide.

The Scientific School is in a peculiar position among the various departments of Harvard University. It is at once a school of general training and a school for professional training. In its first capacity it requires a fair knowledge of at least three languages and requires all its students to take elementary courses in a considerable variety of subjects. In its second capacity it undertakes to prepare engineers, chemists, architects, naturalists, foresters, etc., who will be capable of earning something in their respective occupations immediately on leaving the School. Because of this professional aim it has to be conducted on a group system, with complete liberty of election between groups but with little liberty of election among subjects. Its system is chiefly one of prescription, as is inevitable in a school which undertakes to give professional training. Moreover, it prescribes more courses a year for its students than Harvard College prescribes, so that the work of the students is strenuous and unremitting. It also insists that its students should make good use of a part of every summer vacation for field work in surveying, geology, and mining and metallurgy, and for shop-work.

Compared with that of the preceding year the registration in the Scientific School during the current year shows a loss of eighteen students; but this loss occurred in the group of General Science, the least valued of all the groups of study offered by the School, because it has no distinct professional object. The professional courses show an actual increase in the number of students for the present year. Many unfounded statements having appeared in the public prints during the last six months to the effect that the Lawrence Scientific School is not a place where hard study is enforced, the President desires to state explicitly that the School has always been, is now, and is intended to be, a place for steady work and the most strenuous endeavor on the part of both its teachers and its students.

The following table exhibits the occupations of the fathers of the students who entered Harvard College and the Lawrence Scientific School in the summer and autumn of 1904: —

		Harvard College.				Scientific School.			
	Occupation.	No.		%		No.		%	
	Business	866		43.1		329		62.1	
Professional	Physicians	112	512	5.6	25.5	18	70	3.4	13.3
	Lawyers	160		8.0		29		5.5	
	Ministers	73		3.6		10		1.9	
	Others	167		8.3		13		2.5	
	Government Officials	53		2.6		6		1.1	
	Farmers	53		2.6		16		3.0	
	Wage Earners	253		12.6		60		11.3	
	"No Occupation"	56		2.8		..		..	
	No Record	216		10.8		49		9.2	
	Total	2009		100.0		530		100.0	

Three-sevenths of the fathers of the College students are in some sort of business, large or small; and more than four-sevenths of the fathers of students in the Scientific School are in trade. Very few farmers send their sons to either the College or the Scientific School. As to wage earners, over eleven per cent. of the fathers of the students belong to this class both in the College and in the Scientific School. The occupations of these wage earners will be found in the Appendix (p. 347). The great majority of the undergraduates come from cities and towns. More than a quarter of the students in Harvard College have fathers who practise the professions; while only between one-eighth and one-seventh of the Scientific students have fathers in the professions. One student in seven has no father living; but deceased fathers are included in the above table.

The game of foot-ball has become seriously injurious to rational academic life in American schools and colleges, and it is time that the public, especially the educated public, should understand and take into earnest consideration the objections to this game.

Some of the lesser objections to the game are its extreme publicity, the large proportion of injuries among the players, the absorption of the undergraduate mind in the subject for two months, and the disproportionate exaltation of the foot-ball hero in the college world. The crude and vociferous criticism, blame, and praise which fall to the lot of the foot-ball player can be of no possible advantage to any young man at the opening of his active life; on the contrary, they keep before him an untrustworthy and unwholesome standard of public approval or disapproval. Some danger attends almost all of the manly sports, and taking their risks makes part of the interest in them; but the risks of foot-ball are exaggerated and unreasonable. In a well-managed college, where men physically unfit for foot-ball are prevented from playing the game, the risk of death on the foot-ball field within four years is not so great as the risk in riding horseback, driving an automobile, or boating and yachting, if these sports are followed for years. Nevertheless, many serious injuries occur which are apparently recovered from in good measure, but which are likely to prove a handicap to the victim in later life. Sprains, strains, concussions of the brain, and injuries to bones are apt to leave behind them permanent weaknesses, which in later life become troublesome. The distraction from proper collegiate pursuits of multitudes of undergraduates during the foot-ball season has become a familiar phenomenon; but it is, nevertheless, a mortifying one. The foot-ball hero is useful in a society of young men, if he illustrates generous strength and leads a clean life; but his merits of body and mind are not of the most promising sort for future service out in the world. The alert, nimble, wiry, tough body is, for professional or business purposes in future life, a better one than his; and the mental qualities of the big, brawny athlete are almost certain to be inferior to those of slighter, quicker-witted men whose moral ideals are at least as high as his. The state of mutual distrust and hostility between colleges which all too frequently foot-ball creates is another of these lesser evils. This distrust is publicly manifested in humiliating ways, as when a member of the opposing team, or an official of the game, puts his ear close to the mouth of the trainer who has run out from the side-lines to wash the face of a prostrate player. The precautions taken against trickery, like the armor and padding against hurts, show what the game has come to be. The carrying into elaborate and highly artificial practice the enfeebling theory that no team can do its best except in the presence of hosts of applauding friends is still another of the lesser evils of foot-ball. Worse preparation for the real struggles and contests of life can hardly be imagined. The orator, advocate, preacher, surgeon, engineer, banker, tradesman, craftsman, admiral, general, or statesman who cannot do his best except in the presence of a sympathetic crowd is distinctly a second-class man.

None of these things, however, enter into the main objection to the game, for the main objection lies against its moral quality.

As developed in this country under fierce intercollegiate competition, it has become a game in which the actions of the individual players can often be entirely concealed, not only from the mass of spectators on the benches, but from the nearer observers on the side-lines, and even from the umpire who gets as near as possible to the combatants. The game is played under established and recognized rules; but the uniform enforcement of these rules is impossible, and violations of the rules are in many respects highly profitable toward victory. Thus coaching from the side-lines, off-side play, holding, and disabling opponents by kneeing and kicking, and by heavy blows on the head and particularly about eyes, nose, and jaw, are unquestionably profitable toward victory; and no means have been found of preventing these violations of rules by both coaches and players. Some players, to be sure, are never guilty of them, and some are only guilty of them when they lose their tempers; but others are habitually guilty of them. The rules forbid unnecessary roughness in play, but there is wide latitude in the construction of unnecessary roughness. To strike a player with the clenched fist is unnecessary roughness; to give him a blow equally severe with the base of the open hand is not unnecessary roughness. Even in perfectly visible cases of violation of the rules the game officials often fail to punish the offenders; particularly if an offender on one side can be offset by an offender on the other, and both allowed to remain in the game.

The common justification offered for these hateful conditions is that foot-ball is a fight; and that its strategy and ethics are those of war. One may therefore resort in foot-ball to every ruse, strategem, and deceit which would be justifiable in actual fighting. New tricks are always desirable, as surprises. The weaker man is the legitimate prey of the stronger. One should always try to discover the weakest man in the opponent's line, as, for example, the man most recently injured, and attack him again and again. If a man, by repeated blows about the head and particularly on the jaw, has been visibly dazed, he is the man to attack at the next onset. If in the last encounter a player has been obviously lamed in leg or arm or shoulder, the brunt of an early attack should fall on him. As a corollary to this principle, it is justifiable for a player, who is in good order, to pretend that he is seriously hurt, in order that he may draw the opponent's attack to the wrong place. These rules of action are all justifiable, and even necessary, in the consummate savagery called war, in which the immediate object is to kill and disable as many of the enemy as possible. To surprise, ambuscade, and deceive the enemy, and invariably to overwhelm a smaller force by a greater one, are the expected methods of war. But there is no justification for such methods in a manly game or sport between friends. They are essentially ungenerous, and no sport is wholesome in which ungenerous and mean acts, which easily escape detection, contribute to victory, whether such acts be occasional and incidental, or habitual.

The general public that witnesses with delight these combats can seldom see or understand these concealed and subtle evils of the game. They witness with pleasurable excitement a combat which displays courage, fortitude, and a spirit of self-sacrificing coöperation in the players on each side. The college public is intensely interested in the qualities and the fate of the individual players, and is stirred profoundly by the sentiment of devotion to the institution, — because they believe that success in foot-ball is for the advantage of the institution. All parties welcome the chance to see a strenuous combat, — as their ancestors have for unnumbered generations. The respectable people who attend foot-ball games — collegians, graduates, and others — do not prefer to witness injuries, violations of rules, quarrels, and penalties. On the contrary, they always prefer to see skilful, vigorous playing, uninterrupted by such repulsive incidents. The responsible heads of secondary schools do not wish to have their pupils taught by college athletes that skill in breaking the rules without being detected is essential to success in playing foot-ball. The average college player had much rather play fair than foul. The players have not devised or enjoyed the stupid methods of training which impair the physical condition of most of them before the important games take place. What then are the sources of the grave evils in this sport? They are (1) the immoderate desire to win intercollegiate games; (2) the frequent collisions in masses which make foul play invisible; (3) the profit from violations of rules; (4) the misleading assimilation of the game to war as regards its strategy and its ethics.

On the question, whether or not foot-ball victories do, as a matter of fact, contribute to the growth and reputation of a college or university, there are evidently two opinions. But if a college or university is primarily a place for training men for honorable, generous, and efficient service to the community at large, there ought not to be more than one opinion on the question whether a game, played under the actual conditions of foot-ball, and with the barbarous ethics of warfare, can be a useful element in the training of young men for such high service. The essential thing for University youth to learn is the difference between practising generously a liberal art and driving a trade or winning a fight, no matter how. Civilization has been long in possession of much higher ethics than those of war, and experience has abundantly proved that the highest efficiency for service and the finest sort of courage in individual men may be accompanied by, and indeed spring from, unvarying generosity, gentleness, and good-will.

In 1903–04 the Graduate School suddenly and unexpectedly gained 102 students, but in the current year it has lost one-third of this gain. The gain and the loss are alike hard to understand. In the last three years the School has gained about 20% in number of students. An interesting fact recorded by the Dean (p. 132) relates to the number of courses taken by the 93 members of the Graduate School who obtained the degree of A.M. in 1904 on work done wholly in 1903–04, —46 were enrolled in 4 courses only; 21 in 4½; 22 in 5; 2 in 5½, and 2 in 6 courses. In other words, a little more than one-half of these serious students found it expedient to take more than four courses of study during the year. The Dean also points out (p. 136) that a majority of men who come to the Graduate School intend to remain in it but a single year, and that not one-half of them have a degree in view. In this respect the Graduate School differs greatly from the professional schools of Divinity, Law, and Medicine.

The custom of coming straight from one of the undergraduate departments into the Graduate School is not yet well established; although this practice would undoubtedly be for the interest of the young men who propose to devote themselves to teaching, letters, science, or journalism. The probable explanation of the phenomenon is that many of the young bachelors of arts or science who propose to devote themselves to these professions are compelled to earn money before they can continue their education.

The percentage of Graduate School students born in New England has diminished slightly during the past seven years. Since the percentage of students joining the School from Harvard College has increased, this fact merely means that through the College a larger number of men born out of New England are coming to the Graduate School.

Of the men who become candidates for the higher degrees of the Graduate School, the proportion of non-Harvard men has gradually increased from 44% in 1899 to 50½% in 1904.

Of the 47 men who received the degree of Ph.D. in June, 1904, 37 are already engaged each in the pursuit of a learned profession. The remaining 10 are students still, 8 in Europe and 2 in the United States. Of the 37, 26 are teachers in colleges and universities, and 4 are connected with secondary schools. The Harvard degree of Ph.D. leads with tolerable certainty to immediate employment in an appropriate calling.

The instructive diagram printed in the report of the Dean of the Divinity School (p. 168) shows the movement of attendance at this School during the last 50 years. The School being unique in all the world, past and present, and its vicissitudes having been many, this diagram is an interesting record of an unexampled experience.

The Chapel of Divinity Hall has been decorated with memorials of Professors Frederick H. Hedge and Joseph Henry Thayer, and of Rev. Edmund H. Sears and Ralph Waldo Emerson. To these will soon be added tablets in memory of Professor Henry Ware, Jr., and of Dean Charles Carroll Everett. The Chapel is a beautiful room, and these memorials give it a new interest and sanctity.

The Summer School of Theology was attended in 1904 by 47 persons, of whom 39 held academic degrees, and 5 others had been members of theological seminaries. This body of highly educated men pursued with enthusiasm the studies of the School, and at its close appointed a Committee to express to the President and Fellows and the Faculty of Divinity their high satisfaction with the instruction offered, and the intention of the members present at the meeting to exert themselves to enlarge the membership of the School. The letter received from the Committee is printed in the Appendix, page 341.

The Dexter Lectureship, which was established in 1811, under the will of Samuel Dexter, was originally called the Dexter Lectureship of Bible Criticism. Eight years later its subject was changed to Sacred Literature, and twenty-one years after, to Biblical Literature; and it was then, in 1840, united with the Hancock Professorship of Hebrew and Other Oriental Languages. This lectureship may properly deal, as its several titles have implied, with any part of the Bible. After the endowment of the Hancock Professorship was largely increased in 1891 by the bequest of Charles L. Hancock, the conjunction of the Dexter Lectureship with the Hancock Professorship became less desirable than it had been; because the income of the new Hancock gift, when not applied in full to the payment of the Hancock professor's salary, could be used by the President and Fellows for other purposes; whereas the income of the Dexter Lectureship had but one destination. Accordingly, in 1903–04, Professor Toy resigned the Dexter

Lectureship; and the Corporation thereupon connected the Dexter Lectureship with the Bussey Professorship of New Testament Criticism and Interpretation, held by Professor James Hardy Ropes. For nearly thirty years the Dexter Lectureship dealt with both Testaments; for sixty-four years it dealt with the Old Testament; and it is now likely to be devoted, for a time, to the New.

The Law School is in a condition of great prosperity, except that its building is far too small for the proper accommodation of its books and its students. This condition of things distinctly impairs the efficiency of the School. Already for ten years past the Reading Room has been too small for the number of students in the School. Elaborate plans have twice been prepared for an addition to Austin Hall, set sixty feet away from the present building and connected therewith by a bridge or covered corridor; but both of these plans, after much study and consultation, have been rejected. It is a grave problem for how large a school the new building should be planned. The number of Law students has been multiplied by more than five within thirty years; and the increase during the last half of that period has been more rapid than it was during the first half. Austin Hall does not admit of expansion with the growth of the School. Care must be taken that the new structure admit of extension in several directions, and for this purpose a piece of ground must be provided as a site larger than the immediate needs of the School require.

In June, 1904, Assistant Professor Westengard asked for another year's leave of absence, without salary, that he might continue to discharge his present important function as assistant to Professor Strobel, General Adviser to the King of Siam. As Professor Westengard's first term of service as assistant professor was expiring on the 1st of September, 1904, the Corporation renewed that appointment for another term of five years and then gave him leave of absence until the 1st of September, 1905. If Professor Westengard returns to the service of the Law School, he will undoubtedly be promoted to a professorship.

On and after the beginning of the year 1903–04 the maximum salary of a full professor in the Law School was raised from $5,500 to $6,500 a year, and salaries throughout the list were proportionately advanced. The pecuniary prosperity of the School, quite in contrast with the condition of the other departments of the University, made this action possible and just.

To how great an extent a good medical school is now a place for medical research may be inferred from the fact that much more than one-half of the report of the Dean of the Medical School (p. 184) relates to the investigations which were carried on in and by the School in 1903–04. At the close of the year, the last class was graduated to which candidates not holding a degree in Arts, Literature, Philosophy or Science could be admitted. That requirement for admission has reduced the number of students in the School more than was expected; but nevertheless some gain has been made, for the number of students in the School holding such degrees on October 1, 1904, was 49 more than it was when the new requirement went into effect. The probable minimum of students has now been reached, and henceforth the number may be expected to rise gradually.

When Mr. John D. Rockefeller agreed to contribute one million dollars to the undertaking of the Medical School, his pledge was accompanied by the condition that $765,000 should be secured elsewhere towards the same undertaking, and should be paid in before January 1st, 1904. Owing to the long studies made of the plans and specifications, and to the temporary embarrassment in the summer of 1903 of the contractor who had secured the job, the actual payment of a portion of the $765,000, which had been pledged in accordance with Mr. Rockefeller's condition, could not be secured by the 1st of January, 1904, because the construction of the building to which this portion was devoted, begun early in September, could not be sufficiently advanced by the 1st of January following. An application to Mr. Rockefeller for an extension of the date of the final payment on his pledge was answered by Mr. John D. Rockefeller, Jr., as follows: —

". . . In view of your statement regarding the final payments of others, I will assume the responsibility, on behalf of my father, to extend the date of the final payment of his pledge until July 1st, 1904, judging from what you say that this will allow ample time for the collection of the remaining pledges."

This extension of time proved to be amply sufficient for the purpose, so that the final payments on Mr. Rockefeller's great gift and on the $765,000 on which his gift was conditioned, were all made before the date fixed by Mr. J. D. Rockefeller, Jr. The President and Fellows were thus generously relieved from a serious embarrassment into which they had fallen through unexpected delays in the beginning of actual construction.

A laboratory of Comparative Pathology was built during the year on Bussey land, not far from the quarters of the Horticultural Department, under the skilful direction of Professor Theobald Smith. It is to be used for pathological research and particularly for the work of the State Board of Health in supplying the Commonwealth with trustworthy material for vaccination purposes, — this new work of the Board of Health having been placed, like its earlier work in preparing diphtheria antitoxin, under the direction of Professor Smith. The building was erected with part of a fund belonging to the Bussey Institution, at a cost of about $20,000, and the Commonwealth pays for it a rent of $1000 a year. In the barns and paddocks adjoining are kept the horses and cows which furnish material for these two life-saving products of medical research.

The grounds of the Bussey Institution are well adapted for animal quarters, because ordinary dwellings do not closely approach the site of the buildings there devoted to pathological research. In connection with the new laboratory, there is urgent need of a modern stable for housing the larger domestic animals that are under observation for the study of infectious animal diseases. The new Medical School can offer no facilities of this kind, its site and its surroundings being wholly inappropriate for such structures.

The Dental School had a deficit in the year 1902–03 amounting to $2,124.80. When this fact came to the knowledge of the teachers in that School, thirty-nine of them (Treasurer's

Statement, p. 15) subscribed $2,883.50 in sums varying from $15 to $500, the same to be withdrawn from their salaries for the year. By this action they prevented a recurrence of the deficit, and procured for the School a surplus of $565.28 in 1903–04. In the meantime certain economies were effected in the management of the School which promise to keep the expenditures of the School within its receipts for the year now current.

Books continue to pour into the University libraries, both by gift and by purchase. The accessions of the year 1903–04 were greater than ever before, the total number of volumes added being about 35,000. The College Library and the Law School Library are both compelled to store thousands of volumes in other buildings, the manner of storage being inconvenient and not altogether safe as regards fire.

The long delay in the enlargement of Gore Hall, or the procuring of a new Library building, has the effect of developing the special reference libraries kept in other buildings. There are now 42,000 volumes scattered among twenty-nine such special libraries, which are kept in sixteen different buildings, of which only four are fireproof. In all probability these books are used to the highest advantage, although at a good deal of risk. They are, for the most part, books that could be replaced.

A passage in the report of the Librarian (p. 209) raises clearly this question — for how many persons should a university library be expected to provide the following facilities, — a working-room where writing materials, private papers, and the numerous books needed by the occupant can be continuously kept at hand on a large table with convenient shelves. It is obvious that no general reading-room can make any such provisions, and that no small or unenclosed space can answer such purposes, as, for example, a table placed in the stack near the class of books which the particular student affects. In a university which contains hundreds of professors and thousands of students, and receives every year numerous visitors for purposes of study and research, the question — what number of these private studies should be provided in connection with the university library — is obviously one of fundamental importance in planning the library building. The Law School provides just such facilities for its professors today, though not amply, and the scientific laboratories generally contain private rooms for the professors; but, in general, neither the professors nor the students of the University can dispense with studies of their own, where their main work must be done. Another problem which would greatly affect the plans of a new Library building is suggested in the demand of some departments of the Faculty of Arts and Sciences for small lecture-rooms within the Library building, where a considerable number of books could be conveniently brought together for the use of the professor or of the class during the lecture hour. Two or three such rooms might obviously be provided in any new Library building; but if twenty or thirty ought to be provided, each to be reserved for the use of a single department, the size and cost of the Library building would be appreciably increased.

The ordering of books for the College Library presents one curious difficulty. Every teacher who wants to have a book ordered by the Library is encouraged to hand in an order for that book. The Library Council assigns to thirty or forty teachers every year the privilege and duty of recommending for purchase books known or supposed to be desirable. On the whole, this seems an intelligent way of utilizing the knowledge of experts for the selection of the books to be bought by the central library. The difficulty is that forty per cent. of all the books thus suggested for purchase turn out to be already in the Library. The want of these books unnecessarily suggested for purchase cannot have been personally felt by the gentlemen who suggested them, because they have never inquired whether the books are in the Library or not. A great waste of labor for the Library staff is involved in looking up these thousands of titles of books proposed for purchase but already in the Library. This is an increasing evil; for the number of orders handed in has increased sixty per cent. within three years, and the proportion of orders which prove to be duplicates has increased even more. The result is that all orders are delayed in transmission, and the time of the Library staff, much needed in other directions, is wasted. The remedy is not easy to find, the suggestions of the gentlemen ordering books — namely, that such and such books ought to be in the Library — being in general judicious, and the Library staff being much more skilful than the professors in ascertaining whether a given book is in the Library. Nevertheless, the Librarian is fully justified in calling attention to this waste, which probably amounts to thousands of dollars a year.

The Chairman of the Division of Engineering demonstrates that the raising of the requirements for admission to the Scientific School, and the possibility of obtaining in five years both the A.B. and the S.B. have served to induce many students of engineering to spend three years in the College before entering the Scientific School. In consequence, the elections of engineering courses by College students increase in number, and the percentage of engineering graduates who had previously obtained the A.B. has increased within three years from eleven per cent. to thirty-six per cent. These are good tendencies; because they raise the general quality of the education of the engineer. They call, however, for more professors of engineering and a larger number of advanced courses. In the Lawrence Scientific School civil and electrical engineering are now better provided for than mechanical engineering. On the first opportunity the instruction in mechanical engineering should be strengthened.

The chairman of the Division calls attention to the good quality of the work done at the summer camp at Squam Lake, and to the fact that the summer work at this camp is intended almost wholly for Harvard students and counts for a degree; whereas the summer work at Cambridge and Boston has quite other objects, and, with a few exceptions, does not count for any academic degree. Last summer's experience at this camp tends to prove that students may work at indoor studies, like mathematics for example, for ten weeks out of the thirteen weeks of the long vacation and yet begin the fall term at the end of September in full vigor.

Seven of the teachers in the Division found time to publish researches in engineering subjects, and to do other important work outside of the regular routine instruction.

In the programme in mining and metallurgy in the Scientific School twenty-six courses are required for the degree of Bachelor of Science, twenty-three of them being taken in term time and the other three in parts of two summer vacations. The hours of required attendance at these courses are nearly evenly divided between lecture attendance and laboratory attendance, except that metallurgy calls for about two hundred more laboratory hours than mining does. Adding the time that must be spent in reading, solving problems, and preparing reports and theses, it is probable that the average working-time of the student does not fall below fifty-two hours a week for four years (p. 293). This is about the rate of work necessary for a student who undertakes to accomplish in three years the seventeen and a half courses required for the degree of Bachelor of Arts, on the improbable supposition that each College course will require nine hours of work a week. In spite of the high standard of work required in the department, twenty out of thirty-two men who have attained the degree of S.B. in mining and metallurgy during the past ten years have taken the degree with distinction — twelve *cum laude*, six *magna cum laude*, and two *summa cum laude*.

The chairman of the department sets forth very clearly (p. 294) the practical reasons which led the Faculty and the Governing Boards to institute the degrees of Mining Engineer and Metallurgical Engineer. These degrees will be given for a fifth year's work after the degree of S.B. has been received, it having been demonstrated that a mining and metallurgical engineer cannot get in four years a training which will enable him to meet modern demands, even though the vacations be freely used for field study. The chairman also reports that an experiment is to be tried by certain Harvard men who manage or control large mining and metallurgical enterprises, the plan of which is essentially as follows: A young graduate recommended by the Department of Mining and Metallurgy is to be taken as a technical apprentice by a mine, mill, or smelter for the period of a year, and is to be paid a living wage. The apprentice is to do any work to which he may be assigned, his tasks, however, in the course of a year being sufficiently varied to make the year's experience instructive to him. It is expected that this arrangement will be mutually profitable.

An interesting illustration of the new spirit of coöperation among American universities is the George Crocker Summer Mining School, the expenses of which are met in large part by Mr. George Crocker of San Francisco. The participating institutions were: Columbia University (5 instructors and 40 students), the Massachusetts Institute of Technology (3 instructors and 20 students), Harvard University (2 instructors and 12 students), and Yale University (2 instructors and 9 students). The Colorado School of Mines was also invited to participate, but sent no representative since all its students sufficiently advanced to be admitted to the Crocker School accepted remunerative employment for the summer, principally in the mines of Cripple Creek. The School of 1904 was organized and directed by Professor H. S. Munroe of the Columbia School of Mines, who arranged the course of study, leased and equipped the mines used for instruction, employed skilful miners to give instruction in practical mining operations, and arranged for occasional evening lectures by mining engineers. The subjects taught were drilling and blasting, timbering, mine-surveying, milling, sampling, and mine plant.

In former years the Harvard Department of Mining and Metallurgy has taught its students in summer about mining and metallurgical operations by visiting mines and ore-reduction plants, and making notes and sketches thereat. The additions which the George Crocker School provides are practical work by the students in drilling, blasting, and timbering under the guidance of experienced miners, mine-surveying, and making a test run of ore in a mill. The work in sampling was a repetition of part of the field work in the regular course at Harvard; and some parts of the work in milling could be done better in our own ore-dressing laboratory. Parts of the preliminary work in mine-surveying could also be given just as well at Cambridge. The Crocker School provided instructors whose number was large in proportion to the number of students, to the great advantage of the students.

The advantages of this coöperation between the teachers and students of different institutions were many; and the disadvantages were inconsiderable. Each school represented got a better knowledge of the methods of instruction in use in the other schools. The spirit of friendly rivalry stimulated students and instructors to do their best; and the opportunities to detect the weak as well as the strong points in the training of the students from the several schools should lead to improvements in instruction at all the schools. The object of the George Crocker School is, of course, to perfect the training of the American mining engineer, and thereby to elevate that important profession. In his useful enterprise Mr. Crocker has had the counsel of several of the best mining engineers in the United States.

Within recent years some new kinds of Special Students have appeared in the University under new regulations and practices of the several Faculties. The Law School, which requires for admission to its regular classes a previous degree from a college of high grade, or evidence that the graduate ranked in the first third of his class on the work of the Senior year, admits Special Students of three sorts: (1) Holders of academic degrees from colleges of a grade not acceptable; (2) graduates of Law schools which maintain a three years' course; and (3) persons who have never received a degree, but who pass satisfactory examinations in Blackstone, in the translation from standard Latin and French prose authors, and in rendering of passages of easy English prose into Latin and French, and are then admitted by special vote of the Faculty. A Special Student in the Law School may win the degree; provided he pass satisfactory examinations in the entire course of three years, and obtain a mark within 5% of that demanded for the honor degree. The result is that the list of Special Students in the Law School is highly respectable as regards both number and quality, nearly all of them already possessing some academic degree. The capable student who knows that he can spend only one or two years at the Law School is almost sure to enter as a Special Student, fearing lest, if he should enter as a regular student, he might be supposed to have failed in that career when he left the School without completing its course.

In a similar manner, Special Students in the Divinity School are usually men possessing academic degrees, but not intending or desiring to pursue the regular course of study in the School.

In the Scientific School a large proportion of the Special Students have passed at least one-half of the admission examination, as has already been described (p. 16).

The list of Special Students in Harvard College nowadays contains a considerable number of persons who have registered there temporarily, on their way to regular standing in some class in Harvard College at the end of a year of residence. They have been members of some other college at home or abroad, and not being able to pass an adequate number of examinations to determine to the satisfaction of the Committee on Admission from Other Colleges the precise category in which they belong in Harvard College, they enter as Special Students, and await the result of their first year at Harvard before asking for a determination of their places as regular students in Harvard. The same list of College Special Students contains a large number of persons who have passed a considerable portion of the admission examination and have been recommended by their former teachers as competent to go on with college work.

Every year there are numerous transfers of students, each way, between the College and the Scientific School, some of which involve transfer from the category of Special Student to that of regular student.

The increasing amount of summer work done in various departments of the University deserves attention. The summer school in Arts and Sciences brings together for six weeks a body of mature students, mostly teachers, to the number of from 800 to 900, — taking no account of such unusual incursions as that of the Cuban teachers in 1900, of the 400 extra teachers who joined the summer school in Cambridge in 1903 because they had come to Boston to attend the meeting of the National Educational Association, and of the 323 Porto Rican teachers in 1904. The instructors in this summer school always find the work interesting, and believe it to be highly useful; and eminent professors in the University are more and more content to take part in it.

The summer school at Squam Lake, originally started for students of engineering in the Lawrence Scientific School, has been eminently successful, and now accepts students of other subjects (p. 259). This school is kept open for eleven weeks in June, July, and August.

The summer courses in shop-work given in the Rindge Manual Training School begin about June 16th, and are completed in nine weeks.

Two courses in geological field work are given every summer, either of which may be counted as a half-course towards the A.B. or S.B. degree. The new George Crocker School of Mining and Metallurgy offered in the summer of 1904 a vigorous course of practical instruction to mining students well advanced in the subject. The Department of Geology and Geography, in addition to the two regular elementary summer courses in geology and physiography mentioned above, provided (p. 285) four summer courses in geology and physiography for the long vacation of 1904, one in New York State by Professor J. B. Woodworth, one in the Wahsatch Mountains by Professor Davis, one in the Black Hills and Big Horn Mountains of South Dakota by Professor Jaggar, and one in the Colorado Rocky Mountains by Mr. C. H. White. Students were enrolled in all these courses, and any of the courses could, by vote of the Faculty, be counted towards a degree. Several friends of the department gave scholarships for use in the Rocky Mountains courses, thus stimulating interest in this instruction, and making it possible for deserving students to attend the courses who otherwise would have been unable to do so. These scholarships were awarded to two graduates of Amherst and Cornell (Iowa) colleges respectively, now members of the Harvard Graduate School, to a Harvard graduate now teaching elsewhere, to a graduate of the Massachusetts Institute of Technology, and to a student of Yale University. Miss Maria Whitney has made permanent provision for aid to meritorious students in the study of field geology and geography, to be pursued preferably in the mountain regions of the Western United States, by giving a fund of $5,000, to be known as the Josiah Dwight Whitney Fund, the income of which is to be applied to this purpose.

Dr. William C. Farabee, Instructor in Anthropology, conducted, during the last summer vacation, a party of fifteen students on an interesting archaeological and ethnological excursion to the ruins in New Mexico and Arizona, and the homes of the Navajo, Zuñi, and Moki Indians. The party went together as far as the Pacific, whence its members returned at pleasure by different routes (p. 302).

Forty-seven persons attended the Summer School of Theology in 1904; and 135 persons attended the summer courses in medicine. The attendants at these courses are mostly persons already engaged in professional work.

This large body of summer instruction is new in the main within fifteen years, and much of it is new within five years. The resort to it gives evidence that alert students, and progressive persons who are already at work in professions, are ready and glad to work hard through a large part, at least, of the summer vacation, when offered competent instruction under advantageous conditions.

The University conducted during the summer of 1904 a school for public school teachers from the island of Porto Rico. The expedition was organized and managed by the Insular Department of Education under the general supervision of the Commissioner of Education for Porto Rico, Dr. Samuel McCune Lindsay, by whom it had been proposed to Harvard University in December, 1903. The proposition was heartily welcomed by the President and Fellows; but they did not see their way to assuming any financial responsibility for the proposed expedition, and the matter was therefore taken under advisement until it should be seen whether the necessary funds could be secured. Commissioner Lindsay at once set himself to the task of raising the money by public subscription; and with the coöperation of public-spirited citizens of Boston, New York, and Philadelphia, finance committees were organized in each of these cities. In the meantime the transportation of the expedition from Porto Rico to the United States and back, by United States Army transports, was authorized by

Congress. In May, 1904, the subscription fund had reached a point which led the Porto Rican Department of Education to make definite arrangements for the expedition. It was accordingly planned that a company of from three hundred to five hundred teachers should come to Cambridge for a six weeks' session, and that a smaller company should have a similar session at Ithaca, under the charge of Cornell University. The selection of teachers for these excursions was made by the Department of Education. Only those teachers were selected who had had some previous training in English, and were able to contribute one month's salary toward the cost of the expedition.

The expedition embarked at San Juan on Sunday, June 26, the party destined for Cambridge on the United States Army Transport Kilpatrick, and that destined for Ithaca on the Transport Sumner. The Cambridge party was made up as follows: —

	Men.	Women.	
Teachers	177	146	
Chaperones	0	6	
Interpreters	6	1	
Administrative staff	14	3	
Total	197	156	353

By the courtesy of the Boston Board of Health, the "Kilpatrick" was boarded on July 2 at the entrance of Boston Harbor by a reception committee having charge of the arrangements for baggage, transportation, and the assignment of lodgings. To facilitate these arrangements a number had been assigned to each person, and the members of the expedition had been divided into sections of about twenty-five, each with a leader. The members of each group were, so far as practicable, assigned to lodgings in neighboring houses, the men for the most part in one district to the south and east of the College grounds, and the women in another district to the north of the College grounds. The assignment to lodgings and the corresponding numbering of each piece of baggage were attended to on board ship; and without further delay or difficulty the party was conveyed to Cambridge in special electric cars, the cars being taken to points as near as possible to the destination of the several groups. The housing of the entire party having been practically completed before dark, the teachers were enabled to assemble at Randall Hall in season for supper. Arrangements had been made for providing three meals a day for all members of the expedition at the Summer School restaurant in Randall Hall during the whole of their stay in Cambridge, at a charge of three dollars a week for each person. Lodgings had been secured at varying prices, averaging $1.66 a week for each person. The services of the Medical Visitor of the University were made available for members of the expedition, at the expense of the expedition.

It was decided that the session should be devoted primarily to instruction in English. For this purpose the pupils were divided into three grades, elementary, intermediate, and advanced, based on their previous acquisitions in the English language. A provisional division into grades had been made by the Section Chiefs before the arrival in Cambridge; and these grades were subdivided into classes, ranging in number from sixteen to thirty-eight each, the men and the women being taught in separate classes. This arrangement produced two elementary and two intermediate classes, and one advanced class, of women; three elementary and three intermediate classes, and one advanced class, of men. The provisional assignment to grades and classes was corrected after the instructors had had an opportunity to form an estimate of the abilities of each pupil. After the first week it was decided to form a fourth elementary class for the men, for the benefit of twelve of the most backward pupils. The names of the English instructors will be found in the Appendix (p. 337). Twenty-nine members of the expedition were admitted to courses in the Summer School of Arts and Sciences.

A preliminary conference of the English instructors was held on the morning of July 4, in order that the methods and scope of their work might be discussed. Each instructor was left free to determine the method to be employed in his own work; and the selection of text-books was also left in his hands. A list of the text-books will be found in the Appendix (p. 338). At first the instruction in English was assigned to two prescribed morning periods of three-quarters of an hour each, and one voluntary afternoon period of an hour and a half. For the afternoon work the classes met in pairs, under the charge of one teacher. As the Porto Ricans exhibited a reluctance to engage in any serious work in the afternoon, the voluntary afternoon exercise was abandoned at the end of the first three weeks; and it was arranged that in its place each teacher should take his class on occasional short excursions, which would furnish an opportunity for conversation in English as well as for sight-seeing.

Though no one method was prescribed for the work in English, several features were common to the work of all the classes. After the first few days the classes were conducted almost wholly in English. In addition to the varying exercises in translation and grammar set by the different text-books, writing from dictation, conversation on familiar topics, reading of English prose with comments and explanations, committing passages of prose and poetry to memory, and daily or weekly compositions in English, formed part of the work of nearly every class. The written work was carefully corrected by the teachers and returned to the pupils, the corrected work being in many cases rewritten.

Any general characterization of the work in English is rendered difficult by the fact that the pupils exhibited wide differences in their previous acquisitions, their quickness in learning, and their diligence. The teachers found their classes interesting and responsive; and in every case there were a number of intelligent and zealous pupils who amply repaid every effort made for them. On the other hand there were persistent absentees and laggards in nearly every class. Of the pupils as a whole it may be said that the strangeness of the English tongue yielded perceptibly to their five weeks' life and study in an English-speaking community; so that they not only acquired more English but could make freer use of what they had. This overcoming of the strangeness of the tongue meant for the brightest and most zealous pupils the acquisition of a very considerable facility in conversation.

Nine courses of lectures were provided, the courses following each other in succession, and one lecture being given each morning. The subjects of the lectures and the names of the lecturers will be found in the Appendix (p. 337). Some of the lectures were given in Spanish and others in English; and of those given in English some were interpreted into Spanish, and some were given without an interpreter. In order to make the English lectures more easily understood, a syllabus of each lecture was printed. The syllabuses were usually printed in Spanish; but some were printed in English, and were used as exercises in English in preparation for the lectures. The lectures were poorly attended; and one course which had to be assigned to an afternoon hour on account of the shortening of the session from six to five weeks had to be abandoned, on account of the unanimity with which the Porto Ricans absented themselves.

Many of the afternoons during the session were devoted to excursions to places of interest in the vicinity of Cambridge, most of the excursions being to places which could be easily reached by pleasant electric car rides. A list of the excursions will be found in Appendix (p. 338). The expenses of the excursions were met in part by the Porto Ricans themselves, tickets being sold for each excursion at a price representing about one half the cost for each person. The remainder of the cost was met by the Expedition. Some of the most enjoyable and profitable excursions, however, as noted in the Appendix, were due to the generosity of private individuals.

On four Tuesday evenings during the session the Hemenway Gymnasium was placed at the disposal of the Porto Rican teachers for informal assemblies, which were much enjoyed. Phillips Brooks House was open to the women of the expedition daily for study and rest, and some of the chaperones were in constant attendance there.

The last regular exercises of the School were held on Saturday, August 6. On Monday evening, August 8, the Porto Rican teachers attended a public meeting held in Sanders Theatre under the auspices of the Harvard Teachers' Association, at which the President of the University gave an address on "Education for Efficiency." At the close of the meeting an informal reception for the members of the Summer School of Arts and Sciences and the members of the Porto Rican Expedition was held in Memorial Hall. The Porto Ricans from Cornell, having arrived in Boston on the same day, visited Cambridge in the afternoon, joined their friends at Randall Hall for dinner, and attended the address and reception in the evening, after which they returned on special cars to their transport at the Charlestown Navy Yard. On the following morning, August 9, the Harvard contingent left Cambridge in special cars and embarked at Charlestown at 10.30 A.M. No case of sickness was reported on the day of departure; and the teachers all landed at Porto Rico in health and safety.

After leaving Boston, both of the Porto Rican parties visited Philadelphia, Washington, and New York.

The report of the Director of the Botanic Garden (p. 241) shows that not even a scientific garden can be made safe from the ravages of the brown-tail moth and the gypsy moth, if its whole neighborhood is infested with these pests. For the extermination of injurious insects all the force of the entire community must be applied simultaneously, and with untiring energy; otherwise, any single-minded worm will prove itself too much for man. In spite of the most energetic defensive efforts, a good deal of damage was done during the past year; and the Director states that "at the present writing it is plain that the whole Garden is seriously imperiled."

Through the generosity of Mr. Nathaniel C. Nash, who originally fitted up the Botanical Lecture Room in the University Museum, electric lights, an electric lantern, and ventilation by electric motors have been introduced into that lecture room, to the great advantage of the teachers and students who use it. These facilities were entirely unattainable at the time the lecture room was originally fitted up. They illustrate strongly the new comforts and aids which electrical invention has within fifteen years placed at the service of all who can afford to pay for them.

The work of the Cuban Experiment Station of the Garden covers a considerable range of fruits and vegetables, including rice, maize, and sugar-cane. The stated publication of the monthly reports of the superintendent in charge would add to the usefulness of the station.

The Division of Chemistry can do no more than it now does, either in teaching or investigation, until it is provided with a more spacious and convenient laboratory. Both teaching and investigation are pursued with the utmost activity in Boylston Hall (p. 247), but that building, in spite of ingenious improvements and adaptations made by its successive Directors, can no longer properly accommodate the growing and intensely active department.

The Mineralogical Museum has had two pieces of good fortune. A friend of the Museum has enabled the Curator to install an excellent system of electric lamps for lighting abundantly both the wall cases and the flat cases on both floors of the Museum. This admirable artificial light adds greatly to the beauty and effectiveness of the exhibition rooms. From an entirely different direction a second piece of good fortune has befallen the Museum. The Director promptly seized an opportunity to buy at a very low price a large supply of mineral and rock material of good quality for the use of students, the stock of a dealer who was retiring from business. This purchase has secured an adequate supply of materials for the students' laboratories for many years to come.

The whole number of photographs now in the Fogg Art Museum is 36,930, of which 31,475 are catalogued and arranged in cases. The additions of the year to this collection numbered 5,981, but there is no room in the cases for these accessions. The accumulation of a large and valuable collection of photographs illustrating the fine arts was one of the original objects which the President and Fellows proposed to accomplish in this Museum. This object has already been in good measure attained.

A few valuable additions are made every year to the Gray Collection of Engravings, and the special library of the Museum is steadily enriched by purchases with the income of the Randall Fund and the Searle Fund.

It has been the policy of the Museum to lend slides and photographs to members of the University and to schools and publishers for use in lecturing or in illustrating books. Of late, requests for the use of slides have so increased in number as to embarrass the teaching work of the Museum itself. The Committee of the Museum have therefore voted that it is inexpedient to continue the lending of slides outside of the University save in exceptional cases at the discretion of the Director. Photographs will continue to be lent, because the collection of photographs is much larger than that of slides, so that loans from it can be made without interfering with the work of the Museum itself.

The Director points out that the most pressing need of the Museum is a properly lighted addition to the present building, for the display of original works of art which have come into the possession of the Museum. Plans for two wings have been prepared, one of which would cost about $50,000, and the other about $40,000.

At the opening of the Germanic Museum on the 10th of November, 1903, the University received an address from a Committee of twenty-five eminent German citizens — officers of the Imperial Government, artists, scholars, writers, and men of affairs — and a larger number of their countrymen from all parts of the Empire, presenting on behalf of the German people a magnificent collection of galvano-plastic reproductions of the best specimens of the German silversmith's art from the Middle Ages to the Eighteenth Century, together with an illustrated catalogue of these reproductions which set forth elaborately the sources, nature, and history of the original pieces. The thanks of the President and Fellows were returned as follows: —

"*Voted*, that the thanks of the President and Fellows be sent to the distinguished Committee whose generous initiative, aided by the example of their Sovereign and the coöperation of princely families, public museums, and private collectors, is about to enrich the Germanic Museum of this University with so splendid and informing a collection of monuments of Germanic craftsmanship.

"*Voted*, that in accepting with profound gratitude this unique gift as a token of the bond which unites all lovers of learning and the arts, however separated by land or sea, this Society of Scholars desires to pay its tribute of respect to the memory of the three great scholars who honored this undertaking by their earnest support, but whom death prevented from witnessing its completion — Rudolf Virchow, Ernst Dümmler, Theodor Mommsen."

In his report as Curator of the Germanic Museum Professor Francke gives an interesting account of the agencies through which the great gift of the German Emperor came about. He also describes the sources of the gift of fifty-five electrotype reproductions of German metal work just mentioned. This unique collection represents German handicraft in metal at its best, from the twelfth to the eighteenth century — in the earlier centuries a handicraft chiefly used in the service of the Church, but in the later in the service of cities, guilds, princes, and eminent families. The Curator says, very justly, that a building worthy of the collections already in our possession should provide for enlarging the scope of the Museum, so as to make it an historical survey of the development of Germanic civilization. He has in mind such an exposition as has been planned, and in large measure executed, in the Swiss National Museum at Zurich, under the direction of Dr. Heinrich Angst (LL.D., Harvard, 1903). In a university's long and comprehensive view, collections which exhibit the historical development of human crafts and arts are as important as natural history collections.

Mr. James H. Hyde, of New York (Harvard A.B. 1898), having generously offered to maintain for two years a resident fellowship in the Graduate School with the stipend of $600, to be known as the Fellowship of the Cercle Français de l'Université Harvard, and to coöperate with the Department of Public Instruction of the French Republic in the establishment for two years in the University of Paris of a fellowship to be held by an American student nominated each year by the President of Harvard University, the first Fellow of the Cercle Français at Harvard, Robert C. D. M. P. Dupouey, arrived in Cambridge at the beginning of the academic year under review, and was duly appointed to the new fellowship for one year from September 1st, 1903. A little later, Mr. George Wallace Umphrey, of the Graduate School, was nominated to the corresponding fellowship at the University of Paris. This exchange of scholars has again been effected for the current year. The experiment is interesting and promising.

On September 27th, 1904, the President and Fellows gave leave of absence on half pay to Professor Barrett Wendell for the year 1904–05 that he might accept an appointment as lecturer during that year at the University of Paris and other French universities. Mr. James H. Hyde conceived this plan also, and his generosity made its execution possible.

In the month of March the President and Fellows ordered that, beginning with the academic year 1904–05, a fee of four dollars a year should be charged to every student registered in any Cambridge department of the University for the maintenance of the Stillman Infirmary, and that on the order of a physician every student be given, in case of sickness, in return for this fee, a bed in a ward, board, and ordinary nursing for a period not exceeding two weeks in any one academic year. They also gave to students in departments outside of Cambridge the opportunity to secure the same privileges at the Infirmary as those given to Cambridge students by a voluntary payment of the fee of four dollars on or before a stated date (now October 10th in each academic year). They further determined that similar privileges should be given to unmarried officers of the University in case of sickness, provided they have paid the annual fee of four dollars. The Stillman Infirmary has funds amounting to about $61,000, the income of which is applicable to its maintenance. This income, together with the product of the general fee above provided, will probably meet the expenses of the institution for the present, even after the new ward for contagious diseases, now nearly finished, is brought into use. The Corporation in taking the action above described hoped, not only to provide an adequate income for the Infirmary, but also to cause sick students to make prompt resort to the Infirmary, where they can be taken care of in the best possible manner, instead of remaining in their rooms where it is difficult to take care of them well.

The experiment made at the Stadium on Class Day, 1904, showed that several thousand persons seated in the round end could hear an orator who spoke slowly and distinctly from a platform on the field, behind which a small sounding board had been erected. This experiment suggests that academic ceremonies for which large audiences assemble, such as those of Commencement morning, could be advantageously held there. Certain additional provisions would, however, be necessary, such as a stage capable of seating three or four hundred persons, and backed by a wall one hundred feet long and not less than forty feet high. An awning would also be necessary to keep the sun off the assemblage; and this awning would need to be strong enough to resist a fresh breeze. These provisions, if made in a handsome way, would necessarily be costly, and for the present they must be postponed. In the meantime, it is hoped that the public authorities will make the access to Soldier's Field from Harvard Square safer and pleasanter.

In order to straighten and improve the boundary between the Soldier's Field and the North Brighton Playground the President and Fellows and the City of Boston exchanged parcels of land of equal area and of supposed equal value. A road is to be built by the city along the new boundary, and it will then be time to complete the high, permanent fence which has already been built round the greater part of the Soldier's Field and the Longfellow Marsh. The complete enclosure of this invaluable tract will be of great advantage to the University.

In the fall of 1903 the Harvard Coöperative Society found itself both willing and able to purchase the building on Harvard Square called Lyceum Hall, and to enlarge considerably the field of its operations. For this purpose the Society borrowed from the University $50,000, secured by a mortgage on their new property. Delays in dealing with the actual tenants, and in making the needed changes and repairs in the building, prevented the Society from moving out of Dane Hall until the summer of 1904; but when the new year opened they were in full occupation of their new quarters. Heretofore the Society has occupied a portion of a University building within the College Yard, and has not been able to do business with the public at large. It has now placed itself on entire equality with all other shopkeepers on Harvard Square. Its entire property and stock are subject to taxation; and it can sell goods to any purchaser, whether connected with the University or not. Membership of the Society is still restricted to members of Harvard University and its kindred institutions. The Society continues to procure for all its members substantial advantages in buying the various goods habitually needed by students.

The Harvard Dining Association, which occupies Memorial Hall, desired to improve and add to its plant, and particularly to provide adequate means of ventilating both the basement and the dining hall; and for this purpose they asked permission to add considerably to the debt of the Association. The President and Fellows granted this permission, but regretted to find in the autumn that the Association had been led to spend, in making improvements, a much larger sum than the Corporation had expected. The Association is now carrying the largest debt which has ever burdened it in its history of thirty years.

In December, 1903, the Corporation voted to discontinue at the close of the academic year the payment of rent to Cambridge churches for pews devoted to the free use of students in the University. For a century and three-quarters the religious affiliation of Harvard College was exclusively with the First Parish in Cambridge, which represented the Established Congregational Church in Massachusetts. In 1814, when a separate College Chapel had been provided in University Hall, a Unitarian church was organized to occupy the Chapel, and provide the religious services then acceptable to a great majority of the College families and the students. Students whose parents did not wish them to go to these Unitarian services were required to attend some other church in Cambridge, the College paying for their seats; and with the growing diversities of religious opinion among the College officers and students this practice gradually attained somewhat large proportions. In 1881 the Unitarian church which had had the use of the College Chapel ceased to exist; and since that date the services in the College Chapel have been conducted by a group of preachers representing several denominations. Moreover, the attendance of the students at all religious services has now for eighteen years been completely voluntary. Under the new conditions the just motives which originally led the College to provide free seats for its students in a variety of churches ceased to have any application; so that the Corporation felt free to discontinue an honorable practice of long standing. The various Cambridge churches all continue to make welcome students in all departments of the University.

An interesting report of the year's work of the Secretary for Appointments will be found in the Appendix (p. 348). Apparently neither the young graduates of the University nor the older graduates who are already in places of authority and influence have found out how to use this comparatively new agency, which has now been copied by several other American universities. Nevertheless, a large amount of useful work has been done; and it is obvious that the work might easily be considerably extended, to the advantage of Harvard graduates, young and old, and also of schools and colleges, and business firms and corporations. Near the close of the Secretary's report is a list of the temporary employments which were procured for students during vacation and term-time. The kinds of occupation are numerous, but the three most important are those of the clerk, the tutor, and the canvasser.

The best ultimate disposition of class funds, when they cease to be needed by the classes to which they belong, is a problem of increasing and continuous interest. Few of the classes before 1850 had any funds. Of those that had, seven have already transferred their funds to the College for scholarship uses. The Class of 1851 has devoted its fund to the use of the Library. Four classes have placed their funds in the hands of the University, but still use the income for their own purposes. Recent classes have usually raised much larger funds than their predecessors in the first half of the century ever thought of doing, although the amounts of these recent funds vary widely in different classes. In January, 1904, the President and Fellows gratefully accepted from the Class of 1856 the gift of its class fund on terms named by Daniel A. Gleason, Class Secretary, Charles E. Vaughan, and David P. Kimball, Class Committee, in a letter dated January 21. The terms proposed by this class are well considered, and may be useful to other classes who have under discussion the ultimate disposal of their funds. The letter is therefore printed in the Appendix (p. 346).

In the President's report for the year 1902–03, dated January 11, 1904, it was pointed out that the financial result of that year was a deficit of $40,403.07 in the combined account of the College, Scientific School, Graduate School, and Library, and that, in that same year, an increase of $43,144.59 had taken place in the salaries paid in the departments under the Faculty of Arts and Sciences, in consequence of expectations cherished by the Corporation in the spring of 1902 which were not realized. The arrangements for the year 1903–04 were already made, and it was only possible to save a few thousand dollars on running expenses and to utilize new resources amounting to a few thousand dollars more. The result for the year was a deficit in the combined account of the departments under the Faculty of Arts and Sciences amounting to $30,743.06.

In the spring of the year 1904 the Corporation undertook to reduce the salary list in the departments under the Faculty of Arts and Sciences by at least $25,000; and by the opening of the current year the arrangements to that end had been made. In October last, however, it appeared that there was a loss of 118 students in these departments, involving a loss of tuition-fees to the approximate amount of $18,000. It also appeared that the students' rooms belonging to Harvard College had not been so well let for 1904–05 as they were for 1903–04, and that the loss involved was about $5,000. Some heavy expenditures had to be made during the summer of 1904 to prepare the site of Emerson Hall and to provide for heating and ventilating that building from the boilers in Sever Hall. In spite, therefore, of the reductions in the salary list and of an inexpedient frugality in other expenditures, this account must incur another deficit during the current year.

All the salary reductions have been made on the annual appointments, partly by diminishing the number of such appointments, and partly by reducing the compensation attached to some of them. The salaries of professors and other permanent officers have been maintained.

The worst evil connected with this condition of things has been the loss of certain valued instructors, who, being offered higher titles and higher pay at other institutions than Harvard College could afford to give them, much against their inclination, felt compelled to accept these higher offers. It is much to be deplored that Harvard University should be unable to retain the services of scholars who have demonstrated their capacity both for teaching and investigation; for the prestige of the University cannot be maintained if it is to be liable to such losses.

The situation of Harvard College in regard to its relative dependence on the interest on endowments on the one hand, and on students' fees on the other, has greatly changed within the last thirty years because of the fall in the rate of interest; and its dependence on students' fees is probably more considerable now than it ever was before. The following table, deduced from an account prepared by the Comptroller, Allen Danforth (Appendix, p. 345), demonstrates the increased dependence of the College on students' fees: —

	1831–32.	1871–72.	1903–04.
Receipts from Students	$22,645.60	$116,258.10	$599,280.92
Receipts from Investments	19,950.63	111,034.39*	373,450.76*
Total Receipts	$42,596.23	$227,292.49	$972,731.68
Percentage of Receipts from Investments (compared with Total Receipts)	46.8	48.9	38.4
Rate of Interest	. .	7.82	4.77

This increased dependence on fees is extremely undesirable, because it threatens the stability and just independence of Harvard College. The contrast between the earlier years and the last year would be greater, if it were not that the interest on all the Library funds and on the scholarship and fellowship funds are included in the table. These funds have mostly been created since 1871–72.

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* Including the income on scholarship and fellowship funds.

The recurrence of the annual deficits which have occurred seven times within the last nine years to considerable amounts, could, of course, be provided against by raising the tuition-fee for Harvard College and the Lawrence Scientific School by some small amount like fifteen or twenty dollars; but this device would not provide for the real needs of the College. It is time that the salaries of the College, from bottom to top of the scale, should be moderately advanced to match the increasing cost of household comfort, of education for children, and of suitable recreations, and that the Corporation should be provided with the means of creating new places, on occasion, for young men of decided capacity who may be invited elsewhere. It would not be sufficient merely to maintain the staff of 1903–04. The power to enlarge that staff gradually and moderately is also necessary.

It is larger endowment that Harvard College needs; and for the present the right to raise the tuition-fee ought to be held in reserve. The Board of Overseers has lately expressed this opinion in two votes passed on December 14: —

> *First*, that it is the sense of this Board that salaries of professors and instructors should be maintained and that the customary and expected increases of salary be paid in every instance, irrespective of any other economies.
>
> *Second*, that it is the sense of this Board that it is not expedient at the present time to raise the tuition-fee of Harvard College.

The new endowment should be confined to the uses of Harvard College, and within the College to salaries and retiring allowances. On Commencement Day, 1870, the President said to the assembled alumni: —

> "This University, as it is to-day, is in the main the work of the generations who meet around these tables. The former centuries, to be sure, left us a fruitful germ, and, more than that, fructifying popular principles; but the professional schools are practically all the growth of this century. One-third of the College Yard has been bought since 1833. Stoughton, Holworthy, University, Dane, Grays, Boylston, the Library, the Chapel, and Thayer have all been built since 1804. In the last ten years five times as much money has been received by the College as was received in the first one hundred and seventy-five years of its life. How full of promise for our future is this single fact!

"But, gentlemen, there is enough still to be done by this and coming generations. We mean to build here securely and slowly a university in the largest sense. Now, as the plane of teaching rises it costs more, and it brings in less. A school will support itself; a college hardly; a university never. But we are sure that the experience of the recent past is to be continued and multiplied in the future; and we accept this last gift of the alumni (the Class Subscription Fund) as an earnest that the University may safely rely for its future on the liberality, devotion, and public spirit of its loving and grateful children."

These words are appropriate today, a generation later, the present crisis in the affairs of Harvard College being so serious as to rouse the solicitude of all its friends and lovers. The best form which the new endowment could take would be the permanent endowment of professorships, assistant professorships, instructorships, and assistantships. There are forty professorships in the Faculty of Arts and Sciences which have no endowment whatever; and with each professorship there should go at least one assistant professorship, one instructorship, and a number of assistantships varying with the nature of the professor's duties. To endow a full professorship now requires a fund of from $100,000 to $125,000; to endow an assistant professorship $50,000 would at present be sufficient; to endow an instructorship, $25,000; to endow an assistantship, $12,500. In addition to these special endowments, which might bear the name of a family or an individual, there should also be a fund — the result of numerous smaller gifts — which should be applicable to salaries and retiring allowances in the Faculty of Arts and Sciences. To accomplish the reasonable objects now plainly in view, the total sum of $2,500,000 is a moderate estimate. The oldest, the most essential, and the most beloved department of Harvard University now needs the prompt assistance of its alumni and friends.

The attention of the Overseers is respectfully invited to the following reports of the Deans of the Faculties and Schools and the Directors of the Scientific Establishments.

CHARLES W. ELIOT, *President.*

CAMBRIDGE, January 10, 1905.

REPORTS OF DEPARTMENTS.

THE FACULTY OF ARTS AND SCIENCES.

To the President of the University:—

Sir,—I have the honor of presenting a report on the work of the Faculty of Arts and Sciences for the academic year 1903–04.

Besides the President, the Faculty contained sixty-six Professors, two Associate Professors, thirty-nine Assistant Professors, one Lecturer, twenty-six Instructors, and the Recorder,—in all one hundred and thirty-six members, five more than in the preceding year.

Instruction in 1903–04.

With the following list of courses of instruction that were actually given under the authority of the Faculty, I print a statement of the number and the classification of the students in each course. The figures are those officially returned to the Recorder by the several instructors at the close of the academic year, and take no account of persons who, regularly or irregularly, attended the exercises and did the work of a course without being officially recognized as members of it. The abbreviations are those ordinarily used in such lists:—

COURSES OF INSTRUCTION GIVEN IN 1903–04.

Semitic Languages and History.

For Undergraduates and Graduates:—

1. Professor Lyon.—Hebrew (elementary course).
1 Ju., 2 So., 1 Sp., 4 Di. Total 8.

6 *hf*. Professor Lyon.—Babylonian-Assyrian History. Contact of the Babylonians and Assyrians with the peoples of the Mediterranean coasts and islands. Diffusion of the Babylonian-Assyrian culture through the medium of the Phoenicians. 1 Gr., 2 Ju., 1 So., 1 Sp., 1 Di. Total 6.

12. Professor Lyon.—History of Israel, political and social, to the capture of Jerusalem by the Romans.
13 Se., 9 Ju., 11 So., 1 Fr., 1 Sp., 5 Di. Total 40.

16. Professor G. F. Moore.—History of pre-Christian Hebrew Literature.
2 Gr., 1 Se., 2 So., 3 Sp., 1 Di. Total 9.

13. Professor Toy. — History of the Hebrew Religion, with comparison of other Semitic religions. 2 Gr., 1 Ju., 1 So., 1 Sp., 3 Di. Total 8.

14 *hf*. Professor Toy. — History of the Spanish Califate. The Barbary States. Moslems in Sicily. The Korān. 1 Gr., 1 Ju., 2 Di. Total 4.

Primarily for Graduates: —

‡2. Professor Toy. — Hebrew (second course). Interpretation of parts of the Prophets and the Poetical Books. 1 Gr., 1 Ju., 2 Di., 1 R. Total 5.

3*b*. Dr. Haynes. — Classical Aramaic (second course). — Rödiger's Chrestomathia Syriaca. The Peshitto. 3 Di. Total 3.

‡4. Dr. Haynes. — Assyrian. 1 Ju., 1 Di. Total 2.

‡5. Professor Lyon. — Assyrian (second course). — The Laws of Hammurabi. 1 Gr., 1 So., 1 Di. Total 3.

‡7. Dr. Haynes. — Arabic. Brünnow's Chrestomathy. 1 Ju., 2 Di. Total 3.

‡8. Professor Toy. — Arabic (second course). The Moallakāt; Motenebbi; Ibn Ḥaldun; the Korān. 1 Gr., 1 So., 1 Di. Total 3.

‡20*c*. Professor G. F. Moore. — Old Testament: Principles and Practice of Criticism. 2 Di., 1 R. Total 3.

Indic Philology.

For Undergraduates and Graduates: —

1*a* ^{1}*hf*. Dr. Ryder. — Elementary Sanskrit. 1 Se., 1 Di. Total 2.

Primarily for Graduates: —

‡2 ^{1}*hf*. Dr. Ryder. — Sanskrit. — Gnomic Poetry. The Centuries of Bhartrihari, with the native Scholia. 1 Gr. Total 1.

‡3 ^{2}*hf*. Dr. Ryder. — Sanskrit. — Lyric Poetry. The Cloud-Messenger (Meghadūta) of Kālidāsa, with Mallinātha's commentary, the Samjīvanī. 1 Gr. Total 1.

‡9 ^{1}*hf*. Professor Lanman. — Sanskrit. Introduction to the language and literature of the Vedas. Hymns of the Atharva-Veda, with study of the ancillary Sanskrit works and of Whitney's Critical Commentary. 1 Gr., 1 Di. Total 2.

‡10 ^{2}*hf*. Professor Lanman. — Sanskrit. Continuation of the study of the Vedas. 1 Gr., 1 Di. Total 2.

‡11 ^{2}*hf*. Dr. Ryder. — Lectures on the Sanskrit Drama. 2 Gr., 11 Se., 11 Ju., 18 So., 9 Fr., 2 Sp. Total 53.

‡20. Professor Lanman. — Advanced special study of selected Sanskrit works, with practice in the use of the manuscripts of the Harvard collection. 1 Gr. Total 1.

Classical Philology.

Primarily for Undergraduates: —

Greek.

G. Dr. Chase. — Course for Beginners. 4 So., 8 Fr., 1 Sp., 1 Di. Total 14.

A. Dr. Stickney. — Homer; Attic Prose. Composition. 1 So., 8 Fr., 4 Sp. Total 13.

B. Professor H. W. **Smyth**, Asst. Professors **Gulick** and **Harris**. — Greek Literature. Plato; Lysias; Xenophon; Elegiac, Iambic, and Lyric Poets; Euripides. Lectures on the History of Greek Literature.
2 Ju., 7 So., 60 Fr., 2 Sp., 1 Di. Total 72.

E hf. Dr. **Chase**. — Greek Prose Composition (first course).
2 Se., 3 Jr., 6 So., 17 Fr. Total 28.

1. Asst. Professor **Harris** and Dr. **Stickney**. — Greek Literature. The Period of Athenian Supremacy. Herodotus; Aeschylus; Plutarch; Thucydides; Aristophanes; Sophocles. 3 Ju., 9 So., 2 Sp. Total 14.

2. Asst. Professor **Clifford** H. **Moore**. — Greek Literature. Aristophanes; Thucydides; Aeschylus; Sophocles.
1 Se., 4 Ju., 19 So., 1 Sp. Total 25.

3 *hf.* Asst. Professor **Harris**. — Greek Prose Composition (second course).
5 Gr., 4 Ju., 9 So. Total 18.

Latin.

A. Dr. W. W. **Baker**. — Cicero; Virgil. Composition.
1 Ju., 5 So., 11 Fr., 4 Sp., 1 Sc. Total 22.

B. Professor **Howard**, Associate Professor C. P. **Parker**, Asst. Professor **Clifford** H. **Moore**, and Dr. E. K. **Rand**. — Latin Literature. Livy; Horace; Terence. 1 Se., 5 Ju., 11 So., 117 Fr., 9 Sp. Total 143.

E hf. Dr. E. K. **Rand**. — Latin Composition (first course). Translation of English narrative. 1 Se., 1 Ju., 7 So., 18 Fr. Total 27.

1. Professor **Minton Warren** and Dr. E. K. **Rand**. — Latin Literature. Tacitus; Horace; Catullus. 3 Ju., 28 So., 1 Fr.. Total 32.

2. Associate Professor C. P. **Parker** and Dr. E. K. **Rand**. — Latin Literature. General View of Latin Poetry. 1 Se., 2 Ju., 9 So., 1 Fr. Total 13.

3 *hf.* Professor **Howard**. — Latin Composition (second course).
7 Gr., 1 Se., 5 Ju., 9 So. Total 22.

For Undergraduates and Graduates: —

Greek.

6. Professor H. W. **Smyth** and Asst. Professor **Gulick**. — Greek Literature. Demosthenes; Aeschines; Aeschylus; Sophocles; Aristophanes.
1 Gr., 6 Se., 9 Ju., 2 So. Total 18.

7 *hf.* Professor J. H. **Wright**. — Greek Prose Composition (third course).
5 Gr., 8 Se., 3 Ju. Total 16.

9. Professor **Ropes**. — Introduction to the Study of the New Testament.
1 Se., 4 Ju., 4 So., 1 Sp., 9 Di. Total 19.

8. Professors **Goodwin** and J. H. **Wright**. — Plato; Aristotle. Survey of Greek Philosophy from Thales to Aristotle. 5 Gr., 9 Se., 1 Ju. Total 15.

16. Asst. Professor **Harris**. — Greek Literature. The Homeric Poems, with studies of their influence to the time of the Renaissance.
1 Gr., 7 Se., 2 Ju., 2 So. Total 12.

13 ¹*hf*. Associate Professor C. P. Parker. — Greek Philosophy. Plato (Protagoras. Meno, Phaedo, Phaedrus). 1 Se. Total 1.

14 ²*hf*. Asst. Professor Gulick. — Greek Literature. Lucian and his times. 1 Gr., 2 Se., 1 So. Total 4.

12. Professor H. W. Smyth. — History of Classical Greek Literature. 11 Gr., 1 Se. Total 12.

LATIN.

6. Professor Howard. — Latin Literature. Suetonius; Pliny; Juvenal; Martial. 1 Gr., 5 Se., 15 Ju., 2 So. Total 23.

7 *hf*. Associate Professor C. P. Parker. — Latin Composition (third course). 7 Gr., 9 Se., 2 Ju. Total 18.

8. Professor Smith. — Latin Literature. Plautus; Cicero; Lucretius. 6 Gr., 9 Se., 2 Ju., 1 So. Total 18.

14 ¹*hf*. Asst. Professor Clifford H. Moore. — Latin Literature. — The Roman Historians to Tacitus. 6 Gr. Total 6

9 ²*hf*. Dr. W. W. Baker. — Latin Literature. Cicero and Quintilian. Selections from the De Oratore and the Institutio Oratoria. 2 Gr. Total 2.

10. Professor Morgan. — The Private Life of the Romans. 6 Gr., 23 Se., 32 Ju., 23 So., 1 Sp., 2 Sc., 1 Me. Total 88.

11. Professor Smith. — History of Latin Literature (Poetry). 7 Gr., 1 Se. Total 8.

Primarily for Graduates: —

CLASSICAL PHILOLOGY.

25. Asst. Professor Clifford H. Moore. — Proseminary. Introduction to the methods of Criticism and Research, with special reference to the textual criticism and interpretation of Classical Authors. 11 Gr., 1 Se. Total 12.

‡76 ¹*hf*. Asst. Professor Harris. — Greek Epic Poetry other than the Iliad and Odyssey. 1 Gr., 1 Se. Total 2.

52 ²*hf*. Dr. Stickney. — Greek Elegiac and Lyric Poetry. 1 Ju. Total 1.

‡43. Professor J. H. Wright. — Sophocles. The Plays and Fragments. 7 Gr., 2 Se., 2 R. Total 11.

71 ¹*hf*. Professor Edward Capps (University of Chicago). — Introduction to the study of Greek Comedy. 3 Gr. Total 3.

‡60. Professor Ropes. — The Gospels of Matthew, Mark, and Luke. 1 Gr., 3 Di. Total 4.

‡69. Professor Ropes. — The Apocalyptic Literature, with special study of the Revelation of John. 2 Gr., 2 Di. Total 4.

40 ¹*hf*. Professor Morgan. — Greek Literary Criticism. Aristotle (Art of Poetry). Longinus (on the Sublime). 3 Gr., 1 Se. Total 4.

47. Professor Minton Warren. — The Comedies of Terence. 7 Gr., 2 Se. Total 9.

50 ²*hf*. Professor Morgan. — Roman Satire from Ennius to Juvenal. 4 Gr., 4 Se. Total 8.

65 ²*hf*. Professor Howard. — The Tragedies of Seneca. 1 Gr. Total 1.

‡39 ^{2}*hf.* Associate Professor C. P. Parker. — Cicero's Interpretation of Greek Philosophy. 1 Gr., 1 Se. Total 2.

34 ^{1}*hf.* Asst. Professor Gulick. — Greek Grammar (Sounds and Inflections). Study of Dialectic Inscriptions. 5 Gr. Total 5.

‡30 ^{2}*hf.* Asst. Professor Gulick. — Introduction to Greek Palaeography. 4 Gr. Total 4.

‡22 ^{2}*hf.* Professor Minton Warren. — Latin Grammar (Sounds and Inflections). 5 Gr. Total 5.

‡55 ^{1}*hf.* Professor Minton Warren. — Interpretation of Latin Inscriptions important for their Language or Content. 5 Gr. Total 5.

75 ^{2}*hf.* Professor Morgan. — The Eleusinian and other Greek Mysteries. 3 Gr., 1 Instr. Total 4.

51 ^{1}*hf.* Professor Howard. — Roman Political Antiquities. 5 Gr. Total 5.

‡74 ^{1}*hf.* Professor Edward Capps (University of Chicago). — The Greek Theatre. 1 Gr., 2 Se. Total 3.

20. The Seminary of Classical Philology.

Professors Smith and H. W. Smyth, Directors for 1903–04. — Training in philological criticism and research. Text-criticism and interpretation of Greek and Latin authors: for 1903–04, Early Greek Elegists and Juvenal. 6 Gr. Total 6.

Comparative Philology.

‡1 ^{1}*hf.* Professor Hanns Oertel (Yale University). — General Introduction to Comparative Philology. 4 Gr., 1 Se. Total 5.

‡2. Professors von Jagemann and Grandgent. — General Introduction to Linguistic Science. The Principles of Change in Language. Phonetics. The Pronunciation of English, French, German, and Latin. 10 Gr. Total 10.

English.

Primarily for Undergraduates: —

A. Asst. Professor Hurlbut, Mr. Copeland, Drs. Brown, Hoyt, and Tupper, and Messrs. Rankin, Nutter, Noyes, Reynolds, Utter, Rideout, and Arensberg. — Rhetoric and English Composition. 5 So., 427 Fr., 49 Sp., 118 Sc., 2 Bu., 1 Di. Total 602.

BC hf. Mr. T. Hall. — English Composition. 61 Sc. Total 61.

31. Professor Wendell, Dr. Maynadier, and Messrs. Nutter and W. R. Castle. — English Composition. 1 Gr., 7 Se., 13 Ju., 100 So., 25 Fr., 10 Sp., 6 Sc. Total 162.

22. Asst. Professor Gardiner, and Messrs. E. H. Wells, Archibald, and Holmes. — English Composition. 2 Gr., 10 Se., 13 Ju., 87 So., 22 Fr., 7 Sp., 3 Sc. Total 144.

36 ^{2}*hf.* Mr. Cobb. — English Composition. (Discontinued in 1903–04 except for those students who were required to take a half-course in English Composition for the degree of A.B. in 1903–04, and who were unable to take English 22 or English 31.) 1 Se., 3 So. Total 4.

28 *hf*. Professors A. S. HILL, BRIGGS, KITTREDGE, and WENDELL, Mr. T. HALL, and Dr. BROWN. — English Literature. History and Development of English Literature in outline. 91 Fr., 8 Sp. Total 99.

18. Asst. Professor BAKER, and Messrs. CARLETON and R. L. LYMAN. — The Forms of Public Address.
18 Se., 39 Ju., 41 So., 1 Fr., 1 Sp., 2 Sc. Total 102.

30 ¹ ᵒʳ ² *hf*. Asst. Professor BAKER, and Messrs. CARLETON and R. L. LYMAN. — Debating. 15 Se., 12 Ju., 2 So., 2 Sp., 1 Law. Total 32.

10 *hf*. Asst. Professor WINTER, and Messrs. HILLS and WILLARD. — Public Speaking. 28 Se., 47 Ju., 55 So., 2 Fr., 8 Sp., 2 Sc. Total 142.

For Undergraduates and Graduates: —

3*a* ¹*hf*. Asst. Professor SCHOFIELD. — Anglo-Saxon.
24 Gr., 7 Se., 3 Ju., 1 So. Total 35.

1. Dr. NEILSON. — English Literature. Chaucer.
33 Gr., 6 Se., 1 Ju., 1 Sp. Total 41.

35. Asst. Professor GARDINER. — English Literature. The English Bible.
6 Gr., 3 Se., 7 Ju., 6 So., 1 Fr., 3 Di. Total 26.

2. Professor KITTREDGE. — English Literature. Shakspere (six plays).
29 Gr., 20 Se., 32 Ju., 44 So., 1 Fr., 1 Sc. Total 127.

11*a* ¹*hf*. Asst. Professor F. N. ROBINSON— English Literature. Bacon.
3 Gr., 11 Se., 9 Ju., 10 So., 1 Fr., 1 Sp. Total 35.

11*b* ²*hf*. Dr. NEILSON. — English Literature. Milton.
7 Gr., 7 Se., 21 Ju., 41 So., 8 Fr., 4 Sp., 1 Sc. Total 89.

42*a* ¹*hf*. Asst. Professor SCHOFIELD and Dr. TUPPER. — The Literary History of England from the Norman Conquest to Chaucer.
16 Gr., 6 Se., 10 Ju., 15 So., 1 Sp., 1 Sc. Total 49.

42*b* ²*hf*. Asst. Professor SCHOFIELD and Dr. TUPPER. — The Literary History of England from Chaucer to Elizabeth.
10 Gr., 7 Se., 10 Ju., 15 So., 1 Fr., 1 Sc. Total 44.

32*b* ¹*hf*. Professor WENDELL and Mr. REYNOLDS. — English Literature. From the death of Spenser to the Closing of the Theatres (1599–1642).
8 Gr., 23 Se., 24 Ju., 24 So., 2 Fr., 4 Sp., 2 Sc. Total 87.

15 ²*hf*. Professor WENDELL and Mr. E. H. WELLS. — English Literature. From the Closing of the Theatres to the death of Dryden (1642–1700).
23 Gr., 20 Se., 29 Ju., 40 So., 5 Fr., 2 Sp., 2 Sc. Total 121

8*a* ¹*hf*. Professor A. S. HILL and Mr. COBB. — English Literature. From the publication of the Lyrical Ballads to the death of Scott (1798–1832).
2 Gr., 15 Se., 18 Ju., 24 So., 1 Fr., 1 Sp. Total 61.

8*b* ²*hf*. Asst. Professor FLETCHER and Mr. REYNOLDS. — English Literature. From the death of Scott to the death of Tennyson (1832–1892).
3 Gr., 24 Se., 65 Ju., 53 So., 7 Fr., 2 Sp. Total 154.

41. Dr. NEILSON, and Messrs. J. G. HART and STEARNS. — English Literature. History of English Literature from the Anglo-Saxon Period to the present time. 4 Gr., 16 Se., 20 Ju., 28 So., 4 Sp. Total 72.

37 ^{2}*hf*. Dr. Maynadier. — English Literature. The Story of King Arthur.
8 Gr., 8 Se., 10 Ju., 4 So., 7 Fr., 2 Sp., 4 Sc. Total 43.

29 *hf*. Professor A. S. Hill and Dr. Maynadier. — English Literature. The Novel from Pamela to Daniel Deronda. 7 Gr., 1 Se., 4 Ju., 1 So. Total 13.

45 *hf*. Messrs. Copeland and Arensberg. — English Literature. Lives and Characters of Men of Letters, English and American.
5 Gr., 11 Se., 38 Ju., 35 So., 2 Fr., 2 Sc., 1 Di. Total 94.

12. Professor Briggs. — English Composition.
12 Gr., 7 Se., 21 Ju., 9 So., 1 Sp. Total 50.

Primarily for Graduates: —

16 *hf*. Professor Briggs. — History and Principles of English Versification.
7 Gr., 2 Se., 3 Ju., 5 So. Total 17.

3*b* ^{2}*hf*. Professor Kittredge and Asst. Professor F. N. Robinson. — Anglo-Saxon. Béowulf. 21 Gr., 2 Se., 1 Ju. Total 24.

25 ^{2}*hf*. Asst. Professor F. N. Robinson. — Anglo-Saxon. Cædmon. Cynewulf.
2 Gr. Total 2.

27 ^{1}*hf*. Professor Kittredge. — The English and Scottish Popular Ballads.
7 Gr. Total 7.

44 ^{2}*hf*. Professor Kittredge. — Chaucer. Study of special topics.
8 Gr. Total 8.

40 ^{1}*hf*. Dr. Neilson. — Scottish Literature from Barbour to Lindesay.
6 Gr. Total 6.

14. Asst. Professor Baker. — English Literature. The Drama from the Miracle Plays to the Closing of the Theatres.
21 Gr., 7 Se., 3 Ju., 1 Sp. Total 32.

5*b* ^{1}*hf*. Professor A. S. Hill and Dr. Maynadier. — English Composition and Literature. Studies in Modern English Prose.
8 Gr., 8 Se., 4 Ju., 1 So. Total 21.

Courses of Research.

20. The instructors in English held themselves ready to assist and advise competent Graduate Students who might propose plans of special study in the language or literature of the periods, or in the topics, mentioned below. Such plans, however, must in each case have met the approval of the Department.

I. Periods.

b. Professor Kittredge. — Middle English. 1 Gr. Total 1.

II. Topics.

g. Asst. Professor Baker. — The English Drama: its history, and its relation to Continental Drama. 3 Gr., 1 Se. Total 4.

Germanic Languages and Literatures.

German.

Primarily for Undergraduates: —

A. Drs. Bierwirth and Skinner, and Messrs. Boesche, Sturtevant, Reed, Grossmann, Weber, and Danton. — Elementary Course.
1 Gr., 7 Se., 13 Ju., 37 So., 225 Fr., 13 Sp., 18 Sc., 1 Law, 1 Di. Total 316.

D. Drs. **Bierwirth** and **Kullmer**, and Mr. **Grossmann**. — Elementary Course. 1 So., 1 Sp., 54 Sc. Total 56.

B. Mr. W. G. **Howard**. — Elementary Course (counting as two courses). 3 So., 21 Fr., 8 Sp., 1 Sc. Total 33.

C. Drs. **Walz**, **Skinner** and **Kullmer**. — German Prose and Poetry. 4 Ju., 8 So., 38 Fr., 2 Sp., 5 Sc. Total 57.

1*a*. Dr. **Walz**, and Messrs. **Boesche**, **Reed**, and **Weber**. — German Prose and Poetry. 1 Gr., 2 Ju., 50 So., 2 Fr., 4 Sp., 2 Sc. Total 61.

1*b*. Dr. **Skinner** and Mr. **Grossmann**. — German Prose. Subjects in History and Biography. 6 Ju., 32 So., 4 Fr., 3 Sp., 2 Sc. Total 47.

1*c*. Messrs. **Reed** and **Sturtevant**. — German Prose, narrative and descriptive. 1 Se., 5 Ju., 10 So., 3 Fr., 1 Sp., 28 Sc. Total 48.

Fhf. Dr. **Kullmer**. — Practice in speaking and writing German (first course). 1 Gr., 1 Se., 5 Ju., 9 So., 3 Fr., 1 Sp. Total 20.

Hhf. Mr. **Grossmann**. — Practice in speaking and writing German (second course). 2 Ju., 9 So., 1 Fr. Total 12.

2*a*. Dr. **Skinner**. — Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Lessing, Goethe, and Schiller; German Ballads and Lyrics. 4 Se., 8 Ju., 10 So., 17 Fr. Total 39.

2*b*. Professor H. S. **White**, Mr. **Boesche**, and Dr. **Kullmer**. — Introduction to German Literature of the Eighteenth and Nineteenth Centuries. Lessing, Goethe, and Schiller; German Ballads and Lyrics. 5 Se., 18 Ju., 25 So., 30 Fr., 2 Sp., 3 Sc. Total 83.

3 Dr. **Bierwirth**. — Schiller and his Contemporaries. Lessing; Schiller; Goethe. 1 Se., 2 Ju., 6 So., 7 Fr., 1 Sp. Total 17.

4. Professor **von Jagemann**. — Goethe and his Time. 2 Gr., 1 Se., 5 Ju., 6 So., 8 Fr., 1 Sp. Total 23.

For Undergraduates and Graduates: —

G hf. Dr. **Bierwirth**. — German Grammar and practice in writing German (advanced course). 1 Se., 1 Ju. Total 2.

25 *hf.* Professor **Francke** and an assistant. — History of German Literature in Outline. 3 Se., 3 Ju., 18 So., 1 Sp. Total 25.

5. Professor **Francke** and an assistant. — German Literature of the Classic Period of the Eighteenth Century. 3 Gr., 8 Se., 5 Ju., 4 So., 1 Sp. Total 21.

26*a* [1]*hf.* Mr. W. G. **Howard**. — German Literature in the first half of the Nineteenth Century. Kleist; Uhland; Heine. 3 Gr., 1 Ju., 3 So. Total 7.

26*b* [2]*hf.* Mr. W. G. **Howard**. — German Literature in the second half of the Nineteenth Century. The Development of the Novel and the Drama. 5 Gr., 2 Se., 1 Ju., 2 So., 1 Sp. Total 11.

28. Professor H. S. **White**. — Goethe's Italienische Reise. Readings and translation, with some examination of the original letters and diaries upon which the narrative is based, and with illustrations of the course of Goethe's travels and art studies. 1 Gr., 3 Se., 2 Ju., 4 So., 1 Sp. Total 11.

29. Professor H. S. **White**. — The Life and Writings of Richard Wagner; selections from the texts of Richard Wagner's musical dramas, including Der Fliegende Holländer, Tannhäuser, Lohengrin, Tristan und Isolde, Die Meistersinger, Der Ring des Nibelungen, and Parsifal, with some study of the legendary background, and with illustrations and elucidations from Wagner's other writings. 1 Gr., 4 Se., 8 Ju., 10 So., 2 Sp. Total 25.

8. Dr. **Walz**. — German Literature in the Twelfth and Thirteenth Centuries. Nibelungenlied; Kudrun; Hartmann; Wolfram; Walther von der Vogelweide. Translation into modern German.
4 Gr., 3 Se., 2 Ju. Total 9.

Primarily for Graduates: —

‡9a ¹hf. Professor **Francke**. — German Religious Sculpture from the Eleventh to the End of the Thirteenth Century, and its relation to homiletic and legendary literature, with interpretations in the Germanic Museum.
6 Gr., 2 Se., 3 R. Total 11.

‡10 ²hf. Mr. W. G. **Howard**. — German Literature in the Sixteenth Century. Humanism and Reformation. Hutten, Luther, Hans Sachs, Fischart. Popular Literature in prose and verse. The Drama.
3 Gr., 1 Ju., 5 R. Total 9.

‡ 12a ¹hf. Professor **von Jagemann**. Gothic. Introduction to the study of Germanic Philology. General Introduction and Phonology.
16 Gr., 2 Se. Total 18.

‡12b ²hf. Professor **von Jagemann**. — Introduction to the study of Germanic Philology (continued). Morphology, Etymology.
6 Gr., 1 Se., 1 Ju. Total 8.

‡14 ²hf. Dr. **Bierwirth**. — Old Saxon. Introduction to Germanic Metrics.
2 Gr., 1 Se., 1 R. Total 4.

‡15 ¹hf. Dr. **Bierwirth**. — Old High German. 3 Gr., 1 R. Total 4.

‡22 hf. Professor **von Jagemann**. — History of the German Language. Syntax. Style. 4 Gr. Total 4.

Seminary Courses in Germanic Languages and Literatures.

Primarily for Graduates: —

‡20c. Professor **Francke**. — Topics in the German Romantic Movement.
4 Gr., 2 R. Total 6.

‡20d. Dr. **Walz**. — The Storm and Stress Period. 5 Gr. Total 5.

Scandinavian Literature.

Primarily for Graduates: —

2. Asst. Professor **Schofield**. — Icelandic (Old Norse). Selections from the Sagas and the Elder Edda. 6 Gr., 1 Sp. Total 7.

Romance Languages and Literatures.

French.

Primarily for Undergraduates: —

A. Dr. **Morley**, and Messrs. **Adams**, **Morrison**, **Myrick**, and F. W. **Snow**. Elementary Course.
4 Gr., 7 Se., 5 Ju., 13 So., 68 Fr., 22 Sp., 36 Sc., 1 Law. Total 156.

1*c*. Dr. MORLEY and Mr. MYRICK. — Reading, translation, grammar, and composition. 8 So., 8 Fr., 1 Sp., 36 Sc., 1 Bu. Total 54.

1*b*. Asst. Professor BABBITT, Dr. M. A. POTTER, and Mr. MICHELL. — French Prose, historical and general. Translation from French into English. 2 Ju., 26 So., 39 Fr., 8 Sp., 9 Sc. Total 84.

1*a*. Associate Professor DE SUMICHRAST and Mr. MORRISON. — Reading, translation, grammar, and composition. 6 Ju., 21 So., 25 Fr., 3 Sp., 4 Sc. Total 59.

2*c*. Asst. Professor MARCOU, Drs. M. A. POTTER and MORLEY, and Messrs. WHITTEM and F. W. SNOW. — French Prose and Poetry. Corneille; Racine; Molière; Beaumarchais; Lamartine; Victor Hugo; Alfred de Musset; Balzac. Composition. 3 Se., 18 Ju., 51 So., 90 Fr., 5 Sp., 8 Sc. Total 175.

2*a*. Asst. Professors C. H. C. WRIGHT and BABBITT, Messrs. BRUN and F. W. SNOW. — French Prose and Poetry. Corneille; Racine; Molière; Victor Hugo; George Sand; Alfred de Musset; Sainte-Beuve. Composition. 2 Se., 8 Ju., 35 So., 72 Fr. Total 117.

3 *hf*. Messrs. BRUN and DUMAS. — Practice in speaking and writing French (elementary course). 2 Se., 7 Ju., 27 So., 6 Fr., 3 Sp., 1 Sc. Total 46.

4 *hf*. Mr. BRUN. — Practice in speaking and writing French (intermediate course). 1 Gr., 3 Se., 14 Ju., 18 So., 3 Fr., 1 Sp., 1 Sc. Total 41.

5 *hf*. Mr. BRUN. — Practice in speaking and writing French (advanced course). 1 Gr., 4 Se., 4 Ju., 6 So., 2 Fr. Total 17.

For Undergraduates and Graduates: —

6*c*. Professor GRANDGENT. — General view of French Literature. 5 Gr., 6 Se., 7 Ju., 18 So., 2 Fr. Total 38.

6. Associate Professor DE SUMICHRAST and Mr. BRUN. — General view of French Literature. 3 Gr., 4 Se., 9 Ju., 26 So., 1 Fr., 1 Sp. Total 44.

13. Asst. Professor C. H. C. WRIGHT. — The rise and growth of Classicism in French Literature. 3 Gr., 1 Se., 2 Ju. Total 6.

14. Asst. Professor MARCOU. — French Lyric Poetry from Villon and the Fifteenth Century to the present time. 1 Gr., 3 Se., 1 Ju. Total 5.

18. Associate Professor DE SUMICHRAST and Mr. F. W. SNOW. — French Life in the Seventeenth and Eighteenth Centuries, described and illustrated by the literature and works of art. 16 Se., 31 Ju., 55 So., 11 Fr., 6 Sp., 14 Sc. Total 133.

8*a* [1]*hf*. Associate Professor DE SUMICHRAST. — French Literature in the First Half of the Eighteenth Century. 5 Gr., 6 Se., 7 Ju., 3 So. Total 21.

8*b* [2]*hf*. Associate Professor DE SUMICHRAST. — French Literature in the Second Half of the Eighteenth Century. 5 Gr., 7 Se., 13 Ju., 4 So. Total 29.

9. Asst. Professor C. H. C. WRIGHT. — French Literature in the Seventeenth Century. 2 Gr., 2 Se., 1 Ju., 2 So. Total 7.

Primarily for Graduates: —

19 *hf*. Asst. Professor MARCOU. — Historical French Syntax. 6 Gr. Total 6.

12. Professor SHELDON. — Old French Literature. The national Epic Poetry (the Chansons de geste). 5 Gr. Total 5.

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Primarily for Undergraduates: —

1. Asst. Professor **Ford**, assisted by Mr. **Capotosto**. — Elementary Course.
2 Gr., 7 Se., 7 Ju., 18 So., 9 Fr., 4 Sp., 1 Sc. Total 48.

For Undergraduates and Graduates: —

5. Mr. **Michell**. — Modern Italian Literature. Prose and Poetry of the Eighteenth and Nineteenth Centuries. 1 Gr., 1 Se., 2 So. Total 4.

2. Asst. Professor **Ford**. — Italian Literature of the Fifteenth and Sixteenth Centuries. Torquato Tasso, Ariosto, Machiavelli, Benvenuto Cellini.
4 Gr., 1 Se., 3 Ju., 2 So. Total 10.

10. Professor **Grandgent**. — The Works of Dante, particularly the Vita Nuova and the Divine Comedy. 6 Gr., 1 Se., 1 Ju., 1 Instr. Total 9.

Primarily for Graduates: —

3. Professor **Grandgent** and Mr. F. W. **Snow**. — Italian Literature of the Thirteenth and Fourteenth Centuries. Selections from Boccaccio, Petrarca, and Dante. Early Italian. Monaci's Crestomazia italiana dei primi secoli. 6 Gr., 1 Se. Total 7.

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Primarily for Undergraduates: —

1. Drs. M. A. **Potter** and **Morley**, and Messrs. **Adams**, **Morrison**, and **Whittem**. — Elementary Course.
7 Se., 25 Ju., 39 So., 25 Fr., 2 Sp., 7 Sc., 1 Law. Total 106.

For Undergraduates and Graduates: —

4 *hf.* Asst. Professors **Marcou** and **Ford**. — A general view of Spanish Literature. 13 Gr., 2 Se., 1 Ju., 2 So. Total 18.

5. Asst. Professor **Ford**. — Spanish Prose and Poetry of the Nineteenth Century. Composition. 2 Gr., 1 Se., 6 Ju., 11 So. Total 20.

ROMANCE PHILOLOGY.

Primarily for Graduates: —

3. Professor **Sheldon**. — Old French. Phonology and inflections. The oldest texts. La Chanson de Roland; Chrétien de Troyes; Aucassin et Nicolette. 15 Gr. Total 15.

Comparative Literature.

For Undergraduates and Graduates: —

2. Professor **Sheldon**. — Mediaeval Literature in the vulgar tongues, with especial reference to the influence of France and Provence.
3 Gr. Total 3.

3. Asst. Professor **Fletcher**. — Tendencies of European Literature during the Renaissance. 4 Gr. Total 4.

7. Asst. Professor **Fletcher** and Dr. E. K. **Rand**. — The History of Pastoral Literature. The Classical Pastoral, and the Latin Pastoral of the Middle Ages and the Renaissance. The Pastoral in Modern European Literature.
4 Gr., 1 So. Total 5.

8. Dr. M. A. Potter. — Epic Poetry. General Characteristics. The Heroic Ballad, the National Epic, the Literary Epic. Types of the Popular Epic. 3 Gr. Total 3.

15. Asst. Professor Babbitt. — Rousseau and his Influence. 1 Gr. Total 1.

Primarily for Graduates : —

11 ^{1}*hf*. Asst. Professor Fletcher. — The Literary Relations of England and the Continent in the Sixteenth Century. 3 Gr. Total 3.

Celtic.

Primarily for Graduates : —

1 ^{1}*hf*. Asst. Professor F. N. Robinson. — Old Irish. General introduction to Celtic Philology. 1 Gr. Total 1.

3 *hf*. Asst. Professor F. N. Robinson. — Old and Middle Welsh. The Mabinogion and other selections from the Red Book of Hergest. Lectures on Early Welsh Literature. 1 Gr. Total 1.

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For Undergraduates and Graduates : —

1*a*. Asst. Professor Wiener. — Russian. 2 So., 1 Fr. Total 3.

1*b*. Asst. Professor Wiener. — Russian. Literature of the Nineteenth Century. Pushkin, Gogol, Turgenev, Tolstoy. Composition. 1 Gr., 1 Se. Total 2.

2*a* ^{2}*hf*. Asst. Professor Wiener. — Polish. 1 Gr., 2 Se., 1 Fr. Total 4.

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HISTORY.

Primarily for Undergraduates : —

1*b*. Asst. Professor Coolidge, and Messrs. Newell, Bingham, Fryer, and Shipman. — Modern European History (introductory course). 38 So., 272 Fr., 29 Sp., 7 Sc. Total 346.

For Undergraduates and Graduates : —

2. Professor J. H. Wright and Mr. Brackett. — History of Greece to the Roman Conquest. 5 Gr., 2 Se., 1 Ju., 8 So. Total 16.

4. Professor Haskins. — History of Mediaeval Institutions. 5 Gr. Total 5.

6. Professor Emerton. — General Church History to the End of the Seventeenth Century. 3 Gr., 1 Se., 2 Sp., 6 Di. Total 12.

5*a* ^{1}*hf*. Professor Emerton. — The Formation of the Catholic Church. 2 Gr., 5 Se., 4 Ju., 2 So., 4 Di. Total 17.

5*b* ^{2}*hf*. Professor Emerton. — The Roman Papacy and the Holy Roman Empire in the Middle Ages. 4 Gr., 8 Se., 8 Ju., 15 So., 1 Sp., 1 Sc., 2 Di. Total 39.

8. Professor Gross. — History of France to the Reign of Francis I. 1 Gr., 3 Se., 2 Ju., 1 So., 1 Fr., 1 Sc. Total 9.

9. Professor Gross. — Constitutional History of England to the Sixteenth Century. 17 Gr., 10 Se., 24 Ju., 12 So., 1 Fr., 1 Sp., 1 Di. Total 66.

11. Dr. Merriman. — History of England during the Tudor and Stuart Periods.
8 Gr., 7 Se., 13 Ju., 5 So., 1 Sp., 1 Di. Total 35.

12*a* ^{1}*hf*. Professor Macvane and Mr. Burley. — English History from the Revolution of 1688 to the Reform of Parliament.
7 Gr., 17 Se., 18 Ju., 17 So., 3 Fr., 2 Sp., 2 Sc. Total 66.

12*b* ^{2}*hf*. Professor Macvane and Mr. Burley. — English History since the Reform of Parliament.
5 Gr., 21 Se., 21 Ju., 33 So., 5 Fr., 2 Sp. Total 87.

16*a* ^{1}*hf*. Professor Macvane, and Messrs. H. H. Morse and Wellington. — History of Continental Europe from the Peace of Utrecht to the Fall of Napoleon I. 10 Gr., 32 Se., 46 Ju., 87 So., 10 Fr., 3 Sp., 5 Sc. Total 193.

16*b* ^{2}*hf*. Professor Macvane, and Messrs. H. H. Morse and Wellington. — History of Continental Europe since the Fall of Napoleon I.
10 Gr., 23 Se., 33 Ju., 80 So., 11 Fr., 4 Sp., 6 Sc. Total 167.

27 ^{2}*hf*. Dr. Merriman. — History of Germany from the beginning of the Reformation to the close of the Thirty Years' War.
3 Gr., 11 Se., 14 Ju., 32 So., 13 Fr., 4 Sp., 4 Sc. Total 81.

29 ^{1}*hf*. Dr. Merriman. — Spanish History to the Death of Philip II.
10 Se., 4 Ju., 22 So., 7 Fr., 1 Sp., 2 Sc. Total 46

19. Asst. Professor Coolidge. — The Eastern Question.
2 Gr., 2 Se., 5 Ju., 2 So. Total 11.

10*b* ^{2}*hf*. Professor F. J. Turner (University of Wisconsin). — American History. The Development of the West.
10 Gr., 31 Se., 58 Ju., 33 So., 1 Fr., 3 Sp., 1 Sc. Total 137.

13. Professor A. B. Hart, assisted by Mr. Shepard. — Constitutional and Political History of the United States (1783–1865).
11 Gr., 31 Se., 76 Ju., 66 So., 1 Fr., 3 Sp., 2 Sc., 1 Di. Total 191.

14. Professor A. B. Hart. — History of American Diplomacy. Treaties; application of International Law; foreign policy.
11 Gr., 7 Se., 3 Ju., 1 Sp., 1 Di. Total 23.

Primarily for Graduates: —

‡21. Professor Haskins. — Introduction to the Sources of Mediaeval History.
3 Gr. Total 3.

‡24 ^{2}*hf*. Professor E. C. Moore. — The Church since the Reformation.
2 Se., 1 So., 1 R., 5 Di. Total 9.

23 ^{2}*hf*. Professor F. J. Turner (University of Wisconsin). — Selected Topics in the historical development of American Institutions. The Period of Monroe's Presidency. 8 Gr., 3 Ju., 1 So. Total 12.

Courses of Research.

20*e*. Professor A. B. Hart and Professor F. J. Turner (University of Wisconsin). — American History and Institutions. 14 Gr. Total 14.

20*f*. Dr. Merriman. — English Institutions in the Tudor and Stuart Periods.
1 Gr., 2 Se. Total 3.

20*g*. Asst. Professor Coolidge and Dr. Merriman. — History of Europe (1519–1525). 1 Gr., 2 Se. Total 3.

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1. Professor LOWELL, assisted by Messrs. GEORGE, L. K. CLARK, G. H. ROBERTS, and T. H. REED. — Constitutional Government (elementary course). 1 Ju., 141 So., 200 Fr., 25 Sp., 9 Sc. Total 376.

For Undergraduates and Graduates: —

4. Professor MACVANE and Mr. JONES. — Elements of International Law. 9 Gr., 18 Se., 20 Ju., 7 So., 1 Sp. Total 55.

5. Professor HASKINS. — The Roman Law: its History, Principles, and Influence on European Institutions. 2 Gr., 11 Se., 10 Ju., 3 So., 2 Sp. Total 28.

16*a* ¹*hf.* Mr. C. S. HAMLIN, and Messrs. BEAMAN and BLAIKIE. — Administration of the Government of the United States. 8 Gr., 38 Se., 85 Ju., 91 So., 1 Fr., 4 Sp., 14 Sc. Total 241.

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9 *hf.* Professor GROSS. — Origin and Development of Municipal Government in the Middle Ages. 1 Gr., 4 Se., 1 Ju. Total 6.

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1. Professor TAUSSIG, Asst. Professor ANDREW, and five assistants. — Outlines of Economics. 1 Gr., 15 Se., 108 Ju., 279 So., 72 Fr., 24 Sp., 29 Sc., 1 Di. Total 529.

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2. Professors TAUSSIG and CARVER. — Economic Theory. 9 Gr., 4 Se., 7 Ju., 1 So., 2 Sp. Total 23.

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11. Asst. Professor GAY. — The Modern Economic History of Europe. 10 Gr., 2 Se., 2 Ju., 4 So. Total 18.

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5 ¹*hf.* Professor RIPLEY. — Economics of Transportation. 9 Gr., 50 Se., 45 Jr., 13 So., 2 Sp., 6 Sc. Total 125.

8*a* ²*hf.* Asst. Professor ANDREW. — Money. A general survey of currency legislation, experience, and theory in recent times. 8 Gr., 13 Se., 39 Ju., 24 So., 4 Sp., 3 Sc. Total 91.

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6 Gr., 30 Se., 30 Ju., 9 So., 1 Sp., 1 Sc. Total 77.

12a ^{2}*hf.* Dr. Sprague. — International Trade and International Payments.
5 Gr., 6 Se., 7 Ju., 3 So., 1 Sp., 1 Sc. Total 23.

12b ^{1}*hf.* Asst. Professor Andrew. — History and Theory of Commercial Crises.
5 Gr., 15 Se., 10 Ju., 5 So., 2 Sp., 2 Sc. Total 39.

7a ^{1}*hf.* Asst. Professor Bullock. — A General Introduction to Public Finance exclusive of Taxation.
3 Gr., 1 Se., 1 Ju., 1 Sc., 1 Di. Total 7.

7b ^{2}*hf.* Professor Taussig. — The Theory and Methods of Taxation, with special reference to local taxation, in the United States.
3 Gr., 3 Se., 2 Ju., 1 So., 3 Sp., 1 Sc. Total 13.

16 ^{2}*hf.* Asst. Professor Bullock. — The Financial History of the United States.
11 Se., 12 Ju., 2 So., 1 Sp., 1 Sc. Total 27.

18 ^{1}*hf.* Mr. W. M. Cole. — The Principles of Accounting.
2 Gr., 33 Se., 12 Ju., 1 So., 1 Sp., 2 Sc. Total 51.

21. Asst. Professor Wyman. — Principles of Law governing Industrial Relations.
11 Gr., 89 Se., 30 Ju., 8 So., 3 Sp., 6 Sc., 1 Law. Total 148.

23 ^{2}*hf.* Professor Carver. — The Economics of Agriculture, with special reference to American conditions.
5 Gr., 32 Se., 28 Ju., 17 So., 2 Fr., 8 Sp., 6 Sc., 1 Me. Total 99.

‡24 ^{1}*hf.* Asst. Professor Gay. — General Outlines of Agrarian History.
3 Se., 1 Ju. Total 4.

Primarily for Graduates : —

‡15. Asst. Professor Bullock. — The History and Literature of Economics to the opening of the Nineteenth Century.
5 Gr. Total 5.

‡13 ^{1}*hf.* Professor Carver. — Methods of Economic Investigation.
5 Gr., 3 Se., 3 R. Total 11.

‡22. Asst. Professor Gay. — Outlines of the Development of Economic Thought in Germany and France in the Nineteenth Century.
1 Gr. Total 1.

Courses of Research.

20b. Asst. Professor Gay. — Selected Topics in English Economic History.
2 Gr. Total 2.

20c ^{2}*hf.* Professor Taussig. — Adam Smith and Ricardo.
6 Gr., 1 Se., 1 Law. Total 8.

20e. Dr. Sprague. — Selected Topics in the Economic History of the United States.
7 Gr. Total 7.

20g. Asst. Professor Bullock. — Studies in American Finance.
1 Gr. Total 1.

20i. Special Subjects of Research for advanced students in Economics.
1 Gr. Total 1.

History of Religions.

For Undergraduates and Graduates : —

1 ^{1}*hf.* Professor G. F. Moore. — Introduction to the Study of Religion. The phenomena of the lower religions; genesis and evolution of religion; nature of the religious sentiment; origin of religious conceptions; fundamental problems of the philosophy of religion.
2 Gr., 5 Se., 1 Ju., 5 So., 1 Sp., 9 Div. Total 23.

2. Professor G. F. Moore. — History of Religions in Outline. The Religions of China and Japan, Egypt, Babylonia and Assyria, and the Western Semites (including Judaism and Mohammedanism). The Religions of India, Persia, the Greeks, Romans, Germans, and Celts; Christianity.
2 Gr., 17 Se., 30 Ju., 29 So., 7 Fr., 5 Sp., 4 Sc., 9 Di. Total 103.

Primarily for Graduates: —

3 ^{2}*hf.* Professor Kittredge and Asst. Professor F. N. Robinson. — Germanic and Celtic Religions. 1 Se., 2 Ju. Total 3.

Philosophy.

Primarily for Undergraduates: —

1*a*. Professors Royce and Münsterberg. — General Introduction to Philosophy. Logic. Psychology.
2 Gr., 6 Se., 83 Ju., 85 So., 25 Fr., 11 Sp., 14 Sc., 2 Di. Total 228.

1*b*. Professor Palmer and Asst. Professor Santayana. — Outlines of the History of Philosophy, Ancient and Modern.
3 Gr., 4 Se., 33 Ju., 34 So., 16 Fr., 6 Sp., 5 Sc. Total 101.

For Undergraduates and Graduates: —

2 ^{1}*hf.* Dr. Perry. — Advanced Psychology.
7 Gr., 3 Se., 4 Ju., 3 So., 1 Sp. Total 18.

14 ^{1}*hf.* Dr. Holt. — Experimental Psychology (elementary laboratory course).
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14*a* ^{2}*hf.* Dr. Yerkes. — Comparative Psychology. The Mental Life of Animals.
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10*a* ^{1}*hf.* Asst. Professor Santayana. — Philosophy of History. Ideals of Society, Science, and Religion.
4 Gr., 21 Se., 8 Ju., 6 So., 2 Sp., 1 Sc. Total 42.

10 ^{2}*hf.* Asst. Professor Santayana. — Aesthetics. The Philosophy of Art, with a survey of Aesthetic Theories.
2 Gr., 18 Se., 11 Ju., 10 So., 1 Fr., 5 Sp., 6 Sc., 1 Me. Total 54.

9. Asst. Professor Santayana. — Metaphysics. The Fundamental Problems of Theoretical Philosophy. Realism and Idealism; Freedom, Teleology, and Theism. 2 Gr., 4 Se., 2 Ju., 1 So., 1 Sp., 1 Di. Total 11.

15. Professor Royce. — Theory of Knowledge. The Processes of Conception, Judgment, and Reasoning. The Relations of Thought and Reality. The Elements of Symbolic Logic. 11 Gr., 1 Ju., 1 Di. Total 13.

3. Dr. Miller. — The Philosophy of Nature, with especial reference to Man's place in Nature. The Fundamental Conceptions of Science; the relation of Mind and Body; Evolution. 2 Gr., 2 Se., 5 Ju. Total 9.

11*a* ^{1}*hf*. Dr. **Perry**. — Descartes, Spinoza, and Leibnitz.
1 Se., 1 So., 1 Di. Total 3.

11*b* ^{2}*hf*. Dr. **Perry**. — The History of English Philosophy from Locke to Hume.
3 Gr., 2 So. Total 5.

8. Dr. **Perry**. — The Kantian Philosophy. 4 Gr., 1 Se. Total 5.

16. Dr. **Miller**. — Ethical Ideals of the Nineteenth Century. Mill, Carlyle, Emerson, Browning, and Arnold. 1 Gr., 2 Ju., 2 So., 2 Sp., 1 Di. Total 8.

17. Professor E. C. **Moore**. — History of Christian Thought since Kant.
2 Gr., 1 Se., 1 Ju., 2 Sp., 13 Div. Total 19.

18. Dr. J. H. **Woods**. — The Philosophical Systems of India, with special reference to Vedanta, Sankhya, and Yoga. 2 Se., 1 Di. Total 3.

Seminary Courses.

Primarily for Graduates: —

‡20*a*. Professor **Münsterberg**, and Drs. **Holt** and **Yerkes**. — Psychological Laboratory. Experimental investigations. 11 Gr., 2 R. Total 13.

20*b*. Professor **Münsterberg**. — Psychological Seminary. Standpoints and Controversies of Modern Psychologists. 19 Gr., 1 Di. Total 20.

‡20*c*. Professor **James**. — Metaphysical Seminary. A pluralistic description of the World. 13 Gr., 1 Se., 2 Di., 4 R. Total 20.

‡20*d*. Professor **Palmer**. — Ethical Seminary. Systematization of Ethics.
9 Gr. Total 9.

‡20*e*. Professor **Peabody**. — Sociological Seminary. The ethical teaching of the New Testament. 3 Gr., 1 Se., 18 Di. Total 22.

‡20*f*. Professor **Royce**. — Logical Seminary. The Problems of Logic.
13 Gr., 1 R. Total 14.

‡20*g*. Dr. **Miller**. — Seminary in the History of Modern Philosophy. Idealistic Systems, with special attention to that of Lotze. 1 Gr. Total 1.

20*h*. Opportunities were offered for special research in any portion of philosophy, including education and the ethics of the social questions, under the supervision of the appropriate professors of the Division of Philosophy.
2 Gr., 1 Se., 1 R. Total 4.

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For Undergraduates and Graduates: —

1. Mr. A. O. **Norton**. — The History of Educational Theories and Practices.
10 Gr., 4 Se., 13 Ju., 9 So., 1 Fr., 1 Sp., 3 Sc., 1 Me. Total 42.

2*a* ^{1}*hf*. Professor **Hanus**. — Introduction to the Study of Education. Discussion of Educational Principles.
16 Gr., 17 Se., 7 Ju., 7 So., 2 Sp., 4 Sc , 1 Me. Total 54.

2*b* ^{2}*hf*. Professor **Hanus**. — The Development of Schools and School Systems in America, more particularly in Massachusetts. Contemporary Tendencies and Problems. 3 Gr., 5 Se., 1 So., 1 Sc. Total 10.

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‡3. Professor **Hanus**, assisted by Mr. A. O. **Norton**. — Organization and Management of Public Schools and Academies. Supervision, Courses of Study, and Instruction.
19 Gr., 12 Se., 1 Ju., 2 So., 1 Sp., 3 Sc., 1 Di., 1 Me., 8 R. Total 48.

‡10*c* ¹*hf*. Mr. W. B. **Snow**. — The Methods and Equipment of a teacher of French in secondary schools. 2 Ju., 1 So., 3 R. Total 6.

Seminary Course.

‡20*a*. Professor **Hanus**. — Seminary. Contemporary Problems in Education.
10 Gr., 1 So., 1 Di. Total 12.

The Fine Arts.

Primarily for Undergraduates: —

1. Professor **Charles H. Moore**, assisted by Mr. **Mower**. — Principles of Delineation, Color, and Chiaroscuro, with some consideration of historic forms of Art, and the conditions which have influenced them.
2 Gr., 4 Se., 5 Ju., 14 So., 18 Fr., 13 Sc., 1 Bu. Total 57.

2. Professor **Charles H. Moore**. — Principles of Design in Architecture, Sculpture, and Painting, as exemplified in the Arts of past ages.
2 Gr., 3 Se., 1 Ju., 1 So., 4 Sc. Total 11.

For Undergraduates and Graduates: —

4. Professor **Charles H. Moore** and an assistant. — The Fine Arts of the Middle Ages and the Renaissance.
4 Gr., 28 Se., 80 Ju., 97 So., 22 Fr., 8 Sp., 21 Sc. Total 260.

Primarily for Graduates: —

‡20*b*. Professor **Charles H. Moore**. — History and Principles of Engraving.
3 Gr., 1 Ju., 1 So., 3 R. Total 8.

‡20*d*. Dr. **Chase**. — Classical Archaeology (advanced course). The history of Greek vase painting. 1 Gr., 1 Se., 2 R. Total 4.

Architecture.

The courses in Architecture are intended primarily for students in the Lawrence Scientific School, and only Courses 1a, 1b, and 1c may be counted towards the degree of A.B.

1*a*. Professor H. L. **Warren**, assisted by Messrs. **Swan** and **Mowll**. — Technical and Historical Development of the Ancient Styles, with especial reference to Classic Architecture.
2 Gr., 2 Se., 6 Ju., 6 So., 2 Fr., 24 Sc., 2 Bu. Total 44.

1*c*. Professor H. L. **Warren**, assisted by Messrs. **Swan** and **Mowll**. — Technical and Historical Development of Renaissance and Modern Architecture. 3 Gr., 1 Se., 5 Ju., 1 So., 1 Sp., 16 Sc. Total 27.

2*a*. Professor H. L. **Warren**, and Messrs. **Swan** and **Mowll**. — Elementary Architectural Drawing. The Orders.
2 Gr., 2 Se., 5 Ju., 5 So., 1 Fr., 20 Sc., 1 Bu. Total 36.

2*b*. Mr. **Mowll**. — Descriptive Geometry. Stereotomy; Shades, Shadows, and Perspective. 13 Sc. Total 13.

3a. Mr. J. Lindon Smith, assisted by Mr. Swan. — Freehand Drawing.
4 Gr., 1 So., 20 Sc., 1 Bu. Total 26.

3b. Mr. J. Lindon Smith, assisted by Mr. Swan. — Freehand Drawing (second course). 1 Gr., 10 Sc. Total 11.

3c. Mr. J. Lindon Smith, assisted by Mr. Swan. — Freehand Drawing (third course). 2 Gr., 6 Sc. Total 8.

4a. Professor H. L. Warren, and Messrs. Newton and Mowll. — Elementary Architectural Design. 3 Gr., 14 Sc., 1 Bu. Total 18.

4b. Professor H. L. Warren, and Messrs. Newton and Mowll. — Architectural Design (second course). 2 Gr., 4 Sc. Total 6.

4c. Professor H. L. Warren, and Messrs. Newton and Mowll. — Architectural Design (third course). 6 Sc. Total 6.

5 *²hf.* Messrs. Newton and Swan. — Building Construction: Carpentry.
8 Sc. Total 8.

6 *hf.* Mr. Garbutt. — Modelling. 1 Gr., 9 Sc. Total 10.

7a. Dr. Ross. — Theory of Design. Pure Design (Balance, Rhythm, Harmony) and Design in Representation.
4 Gr., 1 Se., 8 Ju., 2 So., 1 Fr., 6 Sc. Total 22.

Primarily for Graduates: —

3d. Mr. J. Lindon Smith. — Freehand Drawing (advanced course).
1 Gr., 2 Sc. Total 3.

4d. Professor H. L. Warren and Mr. Newton. — Architectural Design (advanced course). 1 Gr. Total 1.

Courses of Research.

20a. Professor H. L. Warren. — Competent Graduate Students who satisfied the instructor of their fitness to pursue advanced work were directed in the study of special periods in the history of architecture.
2 Gr. Total 2.

20b. Dr. Ross. — Advanced Practice in Pure Design and in Representation.
2 Se., 4 Sc. Total 6.

Optional Course.

Mr. H. D. Murphy. — A Course in Drawing from the Life.

Landscape Architecture.

For Undergraduates and Graduates: —

1. Professor Olmsted, and Messrs. Shurtleff and Pray, with five lectures by Professors Goodale and Shaler. — Principles of Landscape Architecture.
1 Gr., 4 Se., 4 Ju., 5 So., 19 Sc., 1 Bu. Total 34.

2. Professor Olmsted, and Messrs. Shurtleff and Pray. — Practice in Design (first course). 1 Gr., 3 Sc., 1 Bu. Total 5.

3. Professor Olmsted, and Messrs. Shurtleff and Pray. — Practice in Design (second course). 1 Gr., 2 Sc. Total 3.

Primarily for Graduates: —

20. Graduate Students and others suitably prepared were allowed to pursue special advanced work under the direction of Professor Olmsted.
1 Gr. Total 1.

Forestry.

1 ^{2}*hf*. Mr. Fisher. — Silviculture. The characteristics of forests; the forest regions of the United States; special consideration of trees important in forestry; the treatment of forests; methods of reproducing forests; tree planting. 3 Gr., 4 Se., 1 Ju., 2 So., 1 Sp., 10 Sc., 2 Bu. Total 23.

2 ^{2}*hf*. Mr. Fisher. — Forest Measurements. Methods of computing the contents of felled and standing trees and of whole stands; the estimation of timber; the use and construction of American log scales; determination of diameter, height, and volume increment.
1 Gr., 3 Se., 1 Ju., 2 So., 1 Sp., 9 Sc., 1 Bu. Total 18.

3 ^{1}*hf*. Mr. Jack. — Dendrology, or Forest Botany.
1 Gr., 1 So., 11 Sc. Total 13.

Music.

For Undergraduates and Graduates: —

1. Asst. Professor Spalding. — Harmony.
1 Se., 6 Ju., 6 So., 19 Fr., 3 Sp., 3 Sc. Total 38.

2. Asst. Professor Spalding. — Counterpoint.
3 Se., 3 Ju., 13 So., 2 Fr., 4 Sp. Total 25.

2*a hf*. Asst. Professor Spalding. — Vocal Counterpoint, with analysis of choral works of the great composers. 2 Se., 4 Ju., 1 So., 2 Sp. Total 9.

3. Professor Paine. — History of Music.
2 Gr., 19 Se., 40 Ju., 41 So., 8 Fr., 3 Sp., 7 Sc., 1 Asst. Total 121.

4 *hf*. Asst. Professor Spalding. — Musical Form, with analysis of the works of the great composers. 2 Se., 4 Ju., 9 So., 1 Fr., 3 Sp. Total 19.

Primarily for Graduates: —

‡5. Mr. Converse. — Canon and Fugue. Free Thematic Music.
2 Se., 1 Ju., 1 Sp. Total 4.

‡6. Professor Paine. — Advanced Fugue and Free Composition.
1 Se., 1 So., 1 Sp. Total 3.

‡7. Professor Paine and Asst. Professor Spalding. — Instrumentation.
3 Se., 1 Ju., 1 So., 1 Sp., 2 R. Total 8.

Mathematics.

Primarily for Undergraduates: —

F. Dr. Bouton, and Messrs. Whittemore and Froehlich. — Trigonometry and Plane Analytic Geometry.
1 Se., 6 Ju., 21 So., 56 Fr., 5 Sp., 2 Sc. Total 91.

A ^{1}*hf*. Mr. Ransom. — Logarithms. Plane and Spherical Trigonometry.
2 So., 7 Fr., 1 Bu. Total 10.

B ^{2}*hf*. Mr. Ransom. — Plane Analytic Geometry (elementary course).
2 Se., 1 Ju., 2 So., 7 Fr. Total 12.

C. Asst. Professor Bôcher. — Plane and Solid Analytic Geometry (extended course). 1 So., 18 Fr., 1 Se. Total 20.

D ^{2}*hf.* Mr. Whittemore. — Algebra.
1 Gr., 2 Se., 9 Ju., 17 So., 25 Fr., 4 Sp. Total 58.

E ^{1}*hf.* Drs. Bouton and Huntington, and Mr. Whittemore. — Solid Geometry.
1 Gr., 10 Se., 5 Ju., 19 So., 29 Fr., 24 Sc., 1 Me. Total 89.

G ^{2}*hf.* Dr. Bouton. — Descriptive Geometry.
1 Se., 2 Ju., 5 So., 2 Fr., 2 Sc. Total 12.

2. Professor Osgood. — Differential and Integral Calculus (first course).
3 Gr., 5 Se., 3 Ju., 18 So., 4 Fr., 2 Sp., 1 Sc. Total 36.

4. Professor Osgood. — The Elements of Mechanics.
1 Gr., 5 Se., 3 Ju., 4 So. Total 13.

For Undergraduates and Graduates: —

3. Professor Byerly. — Introduction to Modern Geometry and Modern Algebra.
6 Gr., 1 Se., 1 Ju., 3 So., 1 Sc. Total 12.

5. Professor Byerly. — Differential and Integral Calculus (second course).
10 Gr., 5 Se., 6 Ju., 1 So., 1 Sc. Total 23.

12 ^{1}*hf.* Asst. Professor Bôcher. — Infinite Series and Products.
3 Gr., 1 Ju. Total 4.

14*a*. Asst. Professor Bôcher. — Algebra. The Properties of Polynomials; Invariants. 8 Gr. Total 8.

24 ^{1}*hf.* Dr. Bouton. — The Theory of Numbers. 1 Gr., 1 Se., 1 So. Total 3.

18 ^{2}*hf.* Dr. Bouton. — The Elementary Theory of Differential Equations.
7 Gr., 2 Se., 2 Ju. Total 11.

6. Professor J. M. Peirce. — The Calculus of Quaternions (first course). Elementary principles and applications.
10 Gr., 3 Se., 2 Ju., 1 Sc. Total 16.

8 ^{1}*hf.* Professor Byerly. — Dynamics of a Rigid Body.
2 Gr., 2 Se., 2 Ju. Total 6.

32. Mr. Whittemore. — Celestial Mechanics. 3 Gr., 1 Ju. Total 4.

Primarily for Graduates: —

‡13. Professor Osgood. — The Theory of Functions (introductory course).
5 Gr., 1 Ju., 2 R. Total 8.

‡7*b* ^{1}*hf.* Professor J. M. Peirce. — Bipolar, Triangular, and Tetrahedral Coördinates of Points, Lines, and Planes. 2 Gr. Total 2.

‡7*c* ^{2}*hf.* Professor J. M. Peirce. — The Application of Tetrahedral Coördinates to Quadric Surfaces. 2 Gr. Total 2.

‡21*a* ^{2}*hf.* Professor J. M. Peirce. — The Algebra of Logic. 2 Gr., 1 Ju. Total 3.

‡21*b* ^{1}*hf.* Professor J. M. Peirce. — The Calculus of Finite Differences.
2 Gr. Total 2.

‡10. Professors Byerly and B. O. Peirce. — Trigonometric Series. Introduction to Spherical Harmonics. The Potential Function.
5 Gr., 1 Se. Total 6.

‡19 ^{2}*hf.* Asst. Professor Bôcher. — Linear Differential Equations.
4 Gr., 1 Ju. Total 5.

‡25 ^{1}*hf.* Dr. Bouton. — Geometrical Transformations, with special reference to the work of Sophus Lie. 6 Gr. Total 6.

Courses of Reading and Research.

20*a* ^{2}*hf*. Professor J. M. Peirce. — Selected Portions of Schröder's Algebra of Logic. 1 Ju. Total 1.

‡20*g*. Dr. Bouton. — Selected Topics in the Theory of Continuous Groups. 1 R. Total 1.

‡20*h*. Mr. Whittemore. — Selected Topics in Differential Geometry. 1 Gr. Total 1.

Astronomy.

Primarily for Undergraduates: —

1 ^{1}*hf*. Professor Willson and Mr. J. F. Cole. — Descriptive Astronomy. 1 Gr., 19 Se., 17 Ju., 6 So., 5 Fr., 4 Sp., 17 Sc., 1 Di. Total 70.

2 ^{2}*hf*. Mr. J. F. Cole. — Practical Astronomy. Application of Astronomy to Navigation and Exploration. 1 Se., 4 Ju., 2 So., 2 Sp., 6 Sc. Total 15.

For Undergraduates and Graduates: —

3. Professor Willson. — Practical Astronomy. 2 Se. Total 2.

Primarily for Graduates: —

5. Professor Willson. — Practical Astronomy. Instruments of the fixed observatory. Meridian Circle; equatorial instrument; absolute determinations. 1 Ju. Total 1.

Engineering.

The courses in Engineering are intended primarily for students in the Lawrence Scientific School, but many of them may be counted towards the degree of A.B. The Catalogue shows what courses may be so counted.

1*a* ^{1}*hf*. Asst. Professor Love, Mr. Frizell, and Dr. Huntington. — Algebra. 5 Ju., 8 So., 6 Fr., 94 Sc. Total 113.

1*b* $^{1\text{ or }2}$*hf*. Asst. Professor Love, Mr. Frizell, and Dr. Huntington. — Trigonometry. 2 Gr., 9 Ju., 24 So., 13 Fr., 94 Sc., 1 Bu. Total 143.

1*d* ^{2}*hf*. Asst. Professor Love, Mr. Frizell, and Dr. Huntington. — Analytic Geometry. 2 Gr., 2 Se., 3 Ju., 14 So., 8 Fr., 1 Sp., 109 Sc. Total 139.

1*c*. Asst. Professor Love, Mr. Frizell, and Dr. Huntington. — Differential and Integral Calculus. 3 Gr., 3 Se., 17 Ju., 12 So., 1 Sp., 63 Sc. Total 99.

3*a*. Messrs. Kennedy, A. E. Norton, Howes, and Updegraff. — Mechanical Drawing. 8 Se., 12 Ju., 17 So., 21 Fr., 3 Sp., 97 Sc. Total 158.

3*b* ^{2}*hf*. Mr. Moyer. — Descriptive Geometry. 10 Ju., 7 So., 2 Fr., 43 Sc. Total 62.

3*d* ^{1}*hf*. Messrs. Kennedy and A. E. Norton — Mechanism. Study of Gearing and Mechanical Movements. 1 Gr., 3 Se., 12 Ju., 7 So., 61 Sc. Total 84.

4*a*. Asst. Professor Hughes and assistants. — Plane Surveying. (See page 86.) 2 Gr., 1 Se., 23 Ju., 29 So., 11 Fr., 1 Sp., 46 Sc. Total 113.

4*c*. Asst. Professor Hughes and assistants. — Geodetic Surveying. (See page 86.) 2 Se., 15 Ju., 20 So., 5 Fr., 1 Sp., 38 Sc. Total 81.

4*d*. Asst. Professor Hughes and assistants. — Railroad Surveying. (See page 86.) 2 Gr., 2 Se., 15 Ju., 20 So., 5 Fr., 1 Sp., 46 Sc. Total 91.

10*a*. Asst. Professor **Burke** and Mr. **Markham**. — Chipping, Filing, and Fitting. (See page 86.) 2 Gr., 1 Ju., 2 So., 17 Sc. Total 22.

10*b*. Asst. Professor **Burke** and Mr. **Markham**. — Blacksmithing. (See page 86.) 3 Gr., 1 Ju., 2 So., 17 Sc. Total 23.

10*c*. Asst. Professor **Burke** and Mr. **Markham**. — Pattern-making and Foundry Practice. (See page 86.) 2 Gr., 1 Ju., 18 Sc. Total 21.

10*e*. Asst. Professor **Burke** and Mr. **Markham**. — Machine Shop Practice. (See page 86.) 2 Gr., 1 Ju., 19 Sc. Total 22.

For Undergraduates and Graduates : —

4*e* ²*hf*. Mr. **McClintock**. — Construction and Maintenance of Common Roads. 1 Gr., 1 So., 24 Sc., 1 Bu. Total 27.

4*f* ¹*hf*. Asst. Professor **Hughes**. — Railroad Engineering (second course). Problems in railroad construction and maintenance. 1 Gr., 1 Se., 2 Ju., 17 Sc. Total 21.

5*b* ¹*hf*. Asst. Professor **Johnson** and Mr. **Moyer**. — Elementary Statics. Graphic and Algebraic Methods. 2 Gr., 5 Se., 19 Ju., 13 So., 1 Fr., 90 Sc. Total 130.

5*d* ²*hf*. Asst. Professor **Johnson** and Mr. **Moyer**. — Resistance of Materials (introductory course). Elementary Structural Design. 2 Gr., 5 Se., 14 Ju., 10 So., 71 Sc. Total 102.

5*a*. Professor **Hollis** and Mr. **Ross**. — Applied Mechanics. 3 Gr., 4 Se., 4 Ju., 62 Sc. Total 73.

5*c* ¹*hf*. Professor **Hollis**. — Resistance of Materials (second course). 1 Gr., 29 Sc. Total 30.

6*a* ²*hf*. Asst. Professor **Hughes**. — Hydraulics and Hydraulic Motors. 4 Gr., 1 Se., 2 Ju., 49 Sc. Total 56.

6*c* ¹*hf*. Asst. Professor **Hughes**. — Water Supply and Sanitary Engineering. 2 Gr., 19 Sc., 1 Bu. Total 22.

6*d* ²*hf*. Asst. Professor **Hughes**. — Canals, Rivers, and Harbors. Irrigation. 1 Gr., 17 Sc. Total 18.

7*a*. Asst. Professor **Johnson**. — Bridges and Buildings. Design of Framed Structures. 1 Gr., 13 Sc. Total 14.

8*a* ²*hf*. Professor **Wolff** and Asst. Professor **Johnson**. — Building Stones, Masonry and Foundations. 3 Gr., 1 Ju., 25 Sc., 1 Bu. Total 30.

11*a* ²*hf*. Asst. Professor **Marks** and Mr. **Haskell**. — Steam Machinery (introductory course). 3 Gr., 10 Se., 15 Ju., 18 So., 1 Sp., 76 Sc. Total 123.

12*b* ¹*hf*. Asst. Professor **Marks** and Mr. **Haskell**. — Elements of Thermodynamics. Theory of Heat Engines. 2 Gr., 3 Se., 2 Ju., 47 Sc. Total 54.

12*a* ¹*hf*. Asst. Professor **Marks**. — Efficiency and Economics of Heat Engines. 1 Se., 13 Sc. Total 14.

12*c* ¹*hf*. Asst. Professor **Burke**. — Heating and Ventilation. 16 Sc. Total 16.

13*a*. Asst. Professor **Marks**, and Messrs. **Moyer** and **Haskell**. — Engineering Laboratory. Introductory course in experimental methods. 5 Gr., 1 Se., 2 Ju., 51 Sc. Total 59.

13*b*. Asst. Professor **Marks** and Mr. **Moyer**. — Engineering Laboratory (second course). 1 Se., 15 Sc. Total 16.

14*a* ²*hf*. Mr. **Kennedy**. — Machine Design (introductory course). 1 Gr., 2 Se., 27 Sc. Total 30.

14*b*. Professor **Hollis**. — Machine Design (second course). 12 Sc. Total 12.

15*a*. Professor **Hollis**. — Marine Engines and Boilers. 2 Sc. Total 2.

16*a*. Asst. Professor **Adams** and Mr. **Whiting**. — Generation, Transmission, and Utilization of Electrical Energy (elementary course). 7 Gr., 3 Se., 6 Ju., 3 So., 50 Sc. Total 69.

16*c*. Professor **Kennelly**. — Direct Current Dynamo-Electric Machinery. 3 Gr., 4 Se., 19 Sc. Total 26.

16*e*. Asst. Professor **Adams**. — Alternating Currents and Alternating Current Machinery. 1 Gr., 2 Se., 10 Sc. Total 13.

16*d*. Asst. Professor **Adams**. — Dynamo Design. 1 Gr., 11 Sc. Total 12.

16*f*. Mr. **Whiting**. — Electrical Engineering Laboratory. 1 Gr., 12 Sc. Total 13.

17*a* ¹*hf*. Professor **Kennelly**. — Electric Transmission and Distribution of Power. 1 Gr., 12 Sc. Total 13.

17*b* ²*hf*. Professor **Kennelly**. — Telegraphy and Telephony. 14 Sc. Total 14.

21. Professor **Hollis**. — Conference on Engineering Subjects. 35 Sc. Total 35.

22 ²*hf*. Asst. Professor **Wyman**. — Contracts and Specifications. The Principles of Common Law as applied to Contracts. 7 Gr., 1 Sp., 50 Sc. Total 58.

Primarily for Graduates: —

COURSE OF RESEARCH.

20*b*. Asst. Professor **Marks**. — Heat engines. 1 Gr. Total 1.

Physics.

Primarily for Undergraduates: —

B. Professor **Hall**, Dr. **Ayres**, and Mr. **Serviss**. — Experimental Physics (elementary course). 4 Se., 6 Ju., 19 So., 37 Fr., 17 Sp., 52 Sc. Total 135.

C. Asst. Professor **Sabine**, Dr. H. W. **Morse**, and Mr. L. D. **Hill**. — Experimental Physics. Mechanics, Sound, Light, Magnetism, and Electricity. 5 Gr., 9 Se., 24 Ju., 32 So., 44 Fr., 5 Sp., 85 Sc. Total 204.

1. Professor **Hall** and Dr. **McKay**. — General Descriptive Physics. 1 Gr., 2 Se., 4 Ju., 11 So., 6 Fr., 18 Sc. Total 42.

2 ¹*hf*. Asst. Professor **Sabine**. — The Theory of Light in its application to familiar optical phenomena and to optical instruments. 1 Gr., 1 Se., 2 Ju., 3 So., 7 Sc. Total 14.

11 ²*hf*. Dr. H. W. **Morse**. — The Theory of Primary and Secondary Batteries. 5 Se., 8 Ju., 5 So., 1 Sp., 11 Sc. Total 30.

For Undergraduates and Graduates: —

3. Professor B. O. **Peirce** and Dr. **Ayres**. — Electrostatics, Electrokinematics, and parts of Electromagnetism. 2 Gr., 4 Ju., 4 So., 1 Sp., 19 Sc. Total 30.

12 ^{1}*hf.* Dr. Lyman. — Electric Conduction in Gases with special reference to the Theory of Ions. 5 Gr., 1 Ju., 2 So., 1 Sp., 1 Sc. Total 10.

4. Professor Trowbridge, Dr. G. W. Pierce, and Dr. Lyman. — Magnetism, Electromagnetism, and Electrodynamics. 3 Gr., 2 Se., 8 Sc. Total 13.

5. Asst. Professor Sabine. — Light. 5 Gr., 1 Se., 1 Ju. Total 7.

6*a* ^{1}*hf.* Professor Hall. — Elements of Thermodynamics.
4 Gr., 1 Se., 3 Ju., 1 So. Total 9.

6*b* ^{2}*hf.* Professor Hall. — Modern Developments and Applications of Thermodynamics. 3 Gr., 1 Se., 2 Ju., 1 So., 1 Sc. Total 8.

14 ^{1}*hf.* Dr. H. W. Morse. — The Theory of Photography.
1 Gr., 3 Se., 2 Ju., 1 So., 1 Sp., 3 Sc. Total 11.

15 ^{2}*hf.* Dr. G. W. Pierce. — Radiation. 3 Gr., 1 Se. Total 4.

Primarily for Graduates : —

‡10. Professor B. O. Peirce and Dr. G. W. Pierce. — The Mathematical Theory of Electricity and Magnetism (second course). 3 Gr. Total 3.

Courses of Research.

20*a*. Professor Trowbridge. — Light and Electricity. 2 Gr. Total 2.

20*c*. Professor Hall. — Heat and Electricity. 3 Gr. Total 3.

20*d*. Asst. Professor Sabine. — Light and Heat. 3 Gr. Total 3.

Chemistry.

Primarily for Undergraduates : —

1. Professor C. L. Jackson, Mr. A. D. Wyman, and seven assistants. — Descriptive Inorganic Chemistry.
5 Gr., 13 Se., 35 Ju., 66 So., 88 Fr., 6 Sp., 121 Sc. Total 334.

2 ^{1}*hf.* Dr. Torrey. — Organic Chemistry (elementary course).
3 Gr., 8 Se., 13 Ju., 17 So., 1 Fr., 2 Sp., 16 Sc. Total 60.

3 Professor Sanger, Dr. Torrey, Mr. Langmaid, and five assistants. — Qualitative Analysis. 5 Gr., 9 Se., 25 Ju., 32 So., 1 Sp., 40 Sc. Total 112.

4. Dr. Baxter and Mr. Hines. — Quantitative Analysis, gravimetric and volumetric. 3 Gr., 3 Se., 11 Ju., 10 So., 10 Sc. Total 37.

For Undergraduates and Graduates : —

8 ^{2}*hf.* Professor Richards and Dr. Lewis. — The Historical Development of Chemical Theory. 3 Gr., 5 Se., 14 Ju., 8 So., 13 Sc. Total 43.

11*a*. Dr. Pringsheim. — Industrial Chemistry. Average attendance 12.

9 ^{1}*hf.* Dr. Baxter and Mr. Gibson. — Advanced Quantitative Analysis.
4 Gr., 3 Se., 2 Ju., 7 Sc. Total 16.

10 ^{2}*hf.* Dr. Baxter and Mr. Gibson. — Gas Analysis.
3 Gr., 4 Se., 1 Ju., 6 Sc. Total 14.

5. Dr. Torrey and Mr. Russe. — The Carbon Compounds.
6 Gr., 9 Se., 11 Ju., 1 So., 10 Sc. Total 37.

Primarily for Graduates: —

6. Professor **Richards** and Mr. R. C. **Wells**. — Physical Chemistry.
8 Gr., 6 Se., 2 Ju., 6 Sc. Total 22.

12 [1]*hf*. Dr. **Baxter**. — Photochemistry, including the use of Optical Instruments in Chemistry. 3 Gr., 2 Se., 1 Ju., 1 Sc. Total 7.

7 [2]*hf*. Dr. **Lewis**. — Electrochemistry. 4 Gr., 5 Se., 2 Ju., 4 Sc. Total 15.

13 [2]*hf*. Dr. **Lewis**. — Experimental Electrochemistry.
2 Gr., 1 Se., 1 Ju., 2 Sc. Total 6.

14. Dr. **Lewis**. — Advanced Physical Chemistry. Chemical Kinetics and Equilibrium. 4 Gr. Total 4.

Courses of Research.

20*a*. Professor **Richards**. — Inorganic Chemistry, including Determination of Atomic Weights. 1 Gr. Total 1.

20*b*. Professor C. L. **Jackson**. — Organic Chemistry. 6 Gr. Total 6.

20*c*. Dr. **Torrey**. — Organic Chemistry. 2 Se., 1 Sc. Total 3.

20*d*. Professor **Richards**. — Physical Chemistry. 4 Gr. Total 4.

20*e*. Professor **Sanger**. — Applied Chemistry. 3 Gr. Total 3.

20*g*. Dr. **Lewis**. — Physical Chemistry. 2 Gr. Total 2.

Botany.

Primarily for Undergraduates: —

1 [2]*hf*. Professor **Goodale** and assistants. — Botany (introductory course).
1 Gr., 4 Se., 14 Ju., 55 So., 55 Fr., 8 Sp., 46 Sc., 1 Bu. Total 184.

2 [1]*hf*. Professor **Thaxter** and two assistants. — Morphology of Plants.
4 Gr., 6 Se., 10 Ju., 21 So., 1 Fr., 16 Sc. Total 58.

For Undergraduates and Graduates: —

3. Asst. Professor **Jeffrey** and an assistant. — Morphology, Histology, Œcology and Physiology of Flowering Plants. 2 Gr., 2 So., 5 Sc. Total 9.

4 [2]*hf*. Professor **Thaxter** and an assistant. — The Bryophyta (Liverworts and Mosses). Lectures and laboratory work.
2 Gr., 1 Se., 1 Ju., 2 So., 1 Sc. Total 7.

5. Professor **Goodale** and an assistant. — Outlines of Economic Botany.
1 Gr., 1 So. Total 2.

7. Mr. **Fernald**. — Classification of Flowering Plants, with special reference to the Flora of New England and the Maritime Provinces.
1 Gr., 2 Ju., 1 So., 1 Sc. Total 5.

8 [1]*hf*. Asst. Professor **Jeffrey** and an assistant. — The Anatomy, Development, and Phylogeny of the Tracheate Zoidogama (Pteridophyta. Cycadofilices, Fossil and Lower Gymnosperms). 1 Gr., 1 Ju., 1 So., 1 Sc. Total 4.

11 [2]*hf*. Dr. **Greenman**. — Botanical Geography.
1 Gr., 1 Se., 2 Ju., 5 So., 4 Sc. Total 13.

Primarily for Graduates : —

COURSES OF RESEARCH.

20*a*. Professor **GOODALE** and Asst. Professor **JEFFREY**. — Experimental Vegetable Physiology. Economic Botany, with special reference to Tropical Plants. Structure and Development of Vascular Plants. 1 Gr., 1 Sc. Total 2.

20*b*. Professors **FARLOW** and **THAXTER**. — Structure and Development of Cryptogams. 4 Gr. Total 4.

20*c*. Professor B. L. **ROBINSON**. — Taxonomy of Phanerogams. 1 Gr. Total 1.

Zoölogy.

Primarily for Undergraduates : —

1 ^{1}*hf*. Asst. Professor G. H. **PARKER**, Mr. G. **SMITH**, and other assistants. — Zoölogy (introductory course).
2 Gr., 7 Se., 15 Ju., 41 So., 35 Fr., 5 Sp., 43 Sc., 1 Bu. Total 149.

2 ^{2}*hf*. Asst. Professor W. E. **CASTLE**, Mr. L. J. **COLE**, and other assistants. — Morphology of Animals.
4 Se., 9 Ju., 19 So., 2 Fr., 1 Sp., 10 Sc. Total 45.

For Undergraduates and Graduates : —

3. Dr. H. W. **RAND** and Mr. **LARRABEE**. — Comparative Anatomy of Vertebrates. 3 Gr., 5 Se., 9 Ju., 2 So., 10 Sc. Total 29.

4 ^{1}*hf*. Professor **MARK** and Dr. H. W. **RAND**. — Microscopical Anatomy.
4 Gr., 2 Se., 2 Ju., 6 Sc. Total 14.

5 ^{2}*hf*. Professor **MARK** and Dr. H. W. **RAND**. — Embryology of Vertebrates.
3 Gr., 1 Se., 1 Ju., 6 Sc. Total 11.

9 ^{1}*hf*. Asst. Professor R. T. **JACKSON**. — Fossil Invertebrates.
3 Gr., 1 Se., 1 Sc. Total 5.

9*a* ^{2}*hf*. Asst. Professor R. T. **JACKSON**. — Fossil Invertebrates. Advanced studies of special groups. 1 Se., 1 So., 2 Sc. Total 4.

11. Asst. Professor W. E. **CASTLE**. — Variation and Heredity.
4 Gr., 1 Se., 1 So., 2 Sc., 1 Di. Total 9.

13 ^{1}*hf*. Asst. Professor G. H. **PARKER**. — Comparative Histology, with special reference to Nervous Tissues. 5 Gr., 4 Sc. Total 9.

15 ^{2}*hf*. Asst. Professor G. H. **PARKER**. — The Structure and Functions of the Nervous System and its Relation to Animal Habits. Sense Organs.
8 Gr., 4 Sc. Total 12.

Primarily for Graduates : —

COURSE OF RESEARCH.

20. Professor **MARK**, Asst. Professors R. T. **JACKSON**, G. H. **PARKER**, and W. E. **CASTLE**. — Zoölogical Investigations. 10 Gr., 3 Sc. Total 13.

Geology.

GEOLOGY AND GEOGRAPHY.

Primarily for Undergraduates : —

A ^{1}*hf*. Mr. P. S. **SMITH**, assisted by Mr. **TOWER**. — Physiography of the Lands.
2 Gr., 4 Se., 3 Ju., 19 So., 12 Fr., 4 Sp., 26 Sc., 2 Bu. Total 72.

B ^{2}*hf*. Asst. Professor **WARD**, assisted by Mr. **TOWER**. — Meteorology (elementary course).
1 Gr., 11 Ju., 49 So., 43 Fr., 4 Sp., 29 Sc., 2 Bu. Total 139.

4 ^{1}*hf.* Professor Shaler and Asst. Professor Jaggar, assisted by Messrs. P. S. Smith and Goldthwait. — Elementary Geology.
3 Gr., 27 Se., 62 Ju., 151 So., 167 Fr., 7 Sp., 67 Sc., 2 Bu., 1 Di., 2 Me. Total 489.

5 ^{2}*hf.* Asst. Professor J. B. Woodworth, aided by Mr. Goldthwait and other assistants. — Elementary Field and Laboratory Geology.
3 Gr., 4 Se., 6 Ju., 32 So., 31 Fr., 2 Sp., 41 Sc., 2 Bu. Total 121.

1 ^{1}*hf.* Asst. Professor Ward. — Meteorology (second course).
1 Se., 2 Ju., 1 So., 12 Sc. Total 16.

For Undergraduates and Graduates : —

7 ^{2}*hf.* Professor Davis and an assistant. — Physiography of Europe.
2 Gr., 2 So., 2 Fr., 1 Sp., 12 Sc. Total 19.

8. Asst. Professor J. B. Woodworth, assisted by Mr. P. S. Smith. — General Geology. 2 Gr., 2 Se., 1 Ju., 1 So., 9 Sc. Total 15.

10. Professor H. L. Smyth, assisted by Mr. Fox. — Mining Geology.
1 Se., 1 Ju., 1 So., 27 Sc. Total 30.

22. Asst. Professor Jaggar, assisted by Messrs. Wood and Richards.— Advanced Geological Field Work. Areal Geology in the vicinity of Boston. 5 Gr., 1 Se., 7 Sc. Total 13.

9 ^{2}*hf.* Asst. Professor Jaggar, assisted by Mr. Wood. — Structural and Dynamical Geology of the United States. 1 Gr., 1 So., 3 Sc. Total 5.

16 ^{1}*hf.* Asst. Professor J. B. Woodworth. — Glacial Geology.
1 Gr., 4 Sc. Total 5.

2 ^{2}*hf.* Asst. Professor Ward. — Climatology of the United States.
1 Gr., 1 Se., 4 Ju., 2 So., 8 Sc. Total 16.

19 ^{1}*hf.* Asst. Professor Ward. — General Climatology.
1 Gr., 3 Se., 2 Ju., 6 Sc. Total 12.

14 ^{1}*hf.* Professor Shaler, assisted by Mr. Gregory. — General Palaeontology.
1 Gr., 21 Se., 12 Ju., 9 So., 1 Fr., 1 Sp., 19 Sc. Total 64.

11. Asst. Professor R. T. Jackson, assisted by Mr. Gregory. — Palaeontology.
1 Gr., 5 Sc. Total 6.

15. Asst. Professor R. T. Jackson. Occasional Lectures by Professor Shaler.— Historical Geology. 1 Sc. Total 1.

18 ^{1}*hf.* Professor H. L. Smyth, assisted by Mr. Fox. — Economic Geology. Non-metalliferous products and water supply. 1 Se., 1 So., 5 Sc. Total 7.

Primarily for Graduates : —

Courses of Research.

‡20. Professor Davis. — Physiography (advanced course).
5 Gr., 1 Sc., 1 R. Total 7.

21. Professor H. L. Smyth. — Mining Geology (advanced course).
1 Gr., 2 Sc. Total 3.

23. Professors Shaler, Davis, Wolff, and H. L. Smyth, Asst. Professors J. B. Woodworth, and Jaggar. — Geological Investigation in the Field and Laboratory. 5 Gr., 2 Sc. Total 7.

26. Asst. Professor Ward. — Climatology (advanced course). 1 Gr. Total 1.

MINERALOGY AND PETROGRAPHY.

Primarily for Undergraduates: —

2. Asst. Professor **PALACHE**, assisted by Mr. **WOOD**. — Mineralogy.
2 Gr., 4 Se., 4 Ju., 6 So., 1 Fr., 41 Sc. Total 58.

For Undergraduates and Graduates: —

12. Professor **WOLFF**, assisted by Mr. **WOOD**. — Petrography.
6 Gr., 1 Se., 2 Sc. Total 9.

Primarily for Graduates: —

COURSE OF RESEARCH.

‡20. Professor **WOLFF** and Asst. Professor **PALACHE**. — Mineralogical and Petrographical Research. 1 Gr. Total 1.

MINING AND METALLURGY.

Primarily for Undergraduates: —

1 ^{2}*hf.* Professor H. L. **SMYTH**, assisted by Mr. **FOX**. — Mining. Prospecting and exploring; sampling and the principles of exploitation.
1 Gr., 2 Se., 1 Ju., 2 So., 25 Sc. Total 31.

9 ^{2}*hf.* Asst. Professor **SAUVEUR**. — General Metallurgy.
1 Gr., 7 Se., 10 Ju., 8 So., 45 Sc. Total 71.

10 ^{1}*hf.* Mr. **RAYMER**, assisted by Mr. **CURTIS**. — Fire Assaying.
2 Gr., 2 Se., 1 Ju., 24 Sc. Total 29.

For Undergraduates and Graduates: —

2 ^{1}*hf.* Asst. Professor **SAUVEUR**, assisted by Mr. **BOYNTON**. — Metallurgy of iron and steel. 6 Gr., 3 Se., 47 Sc. Total 56.

3 ^{2}*hf.* Professor H. L. **SMYTH**. — Metallurgy of copper, nickel, lead, zinc, and the minor metals. 2 Gr., 16 Sc. Total 18.

4. Mr. **RAYMER**, assisted by Mr. **CURTIS**. — Ore-dressing, Concentration, and Milling. 3 Gr., 7 Sc. Total 10.

5 ^{1}*hf.* Professor H. L. **SMYTH**. — Mining. Metal and coal mining; exploitation.
2 Gr., 11 Sc. Total 13.

11 ^{2}*hf.* Mr. **RAYMER**. — Mining Plant. 4 Gr., 6 Sc. Total 10.

6 ^{2}*hf.* Mr. C. H. **WHITE**, assisted by Mr. **BOYLSTON**. — Metallurgical Chemistry.
1 Se., 1 Ju., 19 Sc. Total 21.

7. Mr. C. H. **WHITE**, assisted by Mr. **BOYLSTON**. — Metallurgical Chemistry (advanced course). 1 Gr., 1 Se., 1 Sc. Total 3.

8 ^{1}*hf.* Mr. C. H. **WHITE**. — Leaching Processes for Gold and Silver Ores.
3 Gr., 4 Sc. Total 7.

12. Mr. P. S. **SMITH**. — Mining. The study of mining operations.
1 Ju., 11 Sc. Total 12.

14 ^{2}*hf.* Asst. Professor **SAUVEUR**, assisted by Mr. **BOYNTON**. — Metallography.
2 Gr., 1 Se., 1 Sc. Total 4.

17 ^{2}*hf.* Mr. **RAYMER**. — Mine Surveying. The general principles of underground and claim surveying. The construction of maps, sections, and models.
11 Sc. Total 11.

Primarily for Graduates: —

COURSE OF RESEARCH.

20. Asst. Professor SAUVEUR. — Metallography and the Physics of Metals.
2 Gr., 1 Sc. Total 3.

Anthropology.

For Undergraduates and Graduates: —

1. Dr. FARABEE. — General Anthropology.
2 Gr., 13 Se., 10 Ju., 12 So., 2 Fr., 2 Sp., 7 Sc., 1 Di. Total 49.

5. Dr. DIXON. — American Archaeology and Ethnology.
1 Gr., 6 Se., 10 Ju., 15 So., 3 Fr., 1 Sp., 1 Sc. Total 37.

Primarily for Graduates: —

‡2 ^{2}*hf*. Dr. FARABEE. — Somatology. 1 Se., 2 Ju., 1 Sc. Total 4.

7 ^{2}*hf*. Dr. DIXON. — Ethnology of Polynesia and Australia.
5 Se., 5 Ju., 2 So., 2 Sc. Total 14.

‡8 ^{1}*hf*. Dr. DIXON. — American Indian Languages. Discussion and study of selected texts. 1 Ju., 1 Di. Total 2.

Anatomy, Physiology, and Hygiene.

1. Drs. DARLING, PROVANDIE, BACON, and HAPGOOD — Elementary Anatomy and Physiology. Personal Hygiene. Emergencies.
5 Se., 29 Ju., 29 So., 6 Fr., 4 Sp., 14 Sc. Total 87.

In accordance with a vote of the President and Fellows whereby the Faculty may, under certain conditions, authorize a Doctor of Philosophy or a Doctor of Science to give instruction gratuitously or for such fees as he may himself collect, Dr. Alexander Petrunkévitch was authorized to give, in the second half-year, a course of lectures on Cytology, and Dr. K. D. Jessen was authorized to give, in the second half-year, twelve lectures on German Literary and Aesthetic Criticism during the Eighteenth Century.

It will be observed that certain summer work in Philosophy and Psychology might be counted in 1904 toward the degree of A.B. or of S.B. The total amount in either subject could not exceed a half-course; and the work for a half-course in either subject consisted of the two summer courses therein. The opportunity of counting summer philosophy toward a degree will therefore appeal to none but serious students, for whom, and for whom only, the Summer School is designed.

Summer Courses of Instruction, 1904.

The following courses (fifty-eight as compared with seventy-two in 1903) were given, under the direction of the Faculty, in the summer of 1904. The abbreviations, with the addition of S.S. for "member of the Summer School," are the same as those in the preceding list. A hand ☞ points to each course that may be counted toward a degree: —

Greek.

A. Professor Glanville Terrell. — Greek for Beginners. 5 times a week, for 6 weeks. 4 S. S. Total 4.

Classical Archaeology.

Dr. O. S. Tonks. — Greek Vase Painting. 5 times a week, for 6 weeks. 2 S. S. Total 2.

Latin.

A. Dr. Baker. — General Course for Teachers. 5 times a week, for 6 weeks. 19 S. S. Total 19.

B. Dr. Rand. — The Life and Works of Ovid. 5 times a week, for 6 weeks. 3 S. S. Total 3.

English.

A. Mr. P. G. Carleton. — English Composition (elementary course). 5 times a week, for 6 weeks. 44 S. S. Total 44.

B. Mr. Greenough. — English Composition (advanced course). 5 times a week, for 6 weeks. 1 R., 25 S. S. Total 26.

C. Mr. Rideout. — English Composition (second advanced course). 5 times a week, for 6 weeks. 1 So., 12 S. S. Total 13.

Mr. Reynolds. — College Admission Requirements in English. 5 times a week, for 6 weeks. 55 S. S. Total 55.

Dr. P. C. Hoyt. — Anglo-Saxon. Anglo-Saxon Reader and Grammar. 5 times a week, for six weeks. 1 S. S. Total 1.

Dr. C. F. Brown. — English Literature in Outline, from Anglo-Saxon Times to the Present. 5 times a week, for 6 weeks. 2 S. S. Total 2.

Mr. Copeland. — English Literature of the Eighteenth Century. 5 times a week, for 6 weeks. 13 S. S. Total 13.

Mr. H. M. Rideout. — English Literature of the Nineteenth Century, from the publication of the Lyrical Ballads to the death of Tennyson. 5 times a week, for 6 weeks. 36 S. S. Total 36.

Mr. Copeland. — English and American Biography. 5 times a week, for 6 weeks. 12 S. S. Total 12.

Mr. Greenough. — The Literary History of America. 5 times a week, for 6 weeks. 7 S. S. Total 7.

A. Mr. Willard. — Development of the Voice. 5 times a week, for 6 weeks. 1 Se., 11 S. S. Total 12.

B. Professor Winter and Mr. Hills. — Platform Reading and Oral Discussion. 5 times a week, for 6 weeks. 12 S. S. Total 12.

C. Professor Winter and Mr. Hills. — Platform speaking. 5 times a week, for 6 weeks. 1 Se., 1 Ju., 5 S. S. Total 7.

German.

A. Mr. Grossmann. — Composition and Conversation; Methods of Teaching German. 5 times a week, for 6 weeks. 15 S. S. Total 15.

French.

A. Mr. Snow. — Intermediate French Course for Teachers. 5 times a week, for 6 weeks. 16 S. S. Total 16.

Spanish.

A. Asst. Professor Ford.—Introductory Course. 5 times a week, for 6 weeks. 1 Sc., 7 S. S. Total 8.

History.

A. Dr. Edmiston. — Greek History. 5 times a week, for 6 weeks. 8 S. S. Total 8.

B. Professor Fay (Dartmouth Coll.). — Modern European History. 5 times a week, for 6 weeks. 8 S. S. Total 8.

C. Professor A. L. Cross (Univ. of Michigan). — English History. 28 lectures, supplemented by written exercises. 5 times a week, for 6 weeks. 6 S. S. Total 6.

D. Professor MacDonald (Brown Univ.). — American History. Lectures and training in the use of materials, and in the application of the laboratory method of study. 25 lectures, supplemented by 4 pieces of written work. 5 times a week, for 6 weeks. 1 Gr., 26 S. S. Total 27.

Psychology.

☞ *A*. Dr. Yerkes. — Lecture Course: The Principles, Methods, and Applications of Psychology. 5 times a week, for 6 weeks. 2 Sc., 9 S. S. Total 11.

☞ *B*. Dr. Yerkes. — Laboratory Course: An Experimental Study of Sensation, Perception, Attention, and Reaction, with Demonstrations. 5 times a week, for 6 weeks. 2 Sc., 9 S. S. Total 11.

Philosophy.

☞ Professor Royce. — General Introduction to Philosophy. 5 times a week, for 6 weeks. 3 Ju., 3 So., 1 R., 24 S. S. Total 31.

☞ Professor Royce. — General History of Philosophy. 5 times a week, for 6 weeks. 3 Ju., 3 So., 1 R., 22 S. S. Total 29.

Education.

S1. Mr. A. O. Norton. — The History of Education since the Twelfth Century. 5 times a week, for 6 weeks. 12 S. S. Total 12.

S2. Mr. A. O. Norton. — General Principles of Education, courses of study, etc. 5 times a week, for 6 weeks. 1 Se., 34 S. S. Total 35.

S3. Mr. G. I. Aldrich. — Organization and Administration of Schools and School Systems. 5 times a week, for 6 weeks. 16 S. S. Total 16.

Drawing and Painting.

Dr. Ross and Mr. W. L. Mowll. — Lectures, with technical exercises for teachers of drawing and painting, and for professional painters. 3 times a week, for 6 weeks. 1 Gr., 60 S. S. Total 61.

Architectural Drawing.

Mr. Swan. — Architectural Drawing. Theory and Practice. 5 times a week, for 6 weeks. 2 Sc., 2 Ju., 4 S. S. Total 8.

Architectural Design.

Mr. W. L. Mowll. — Theory and Practice. 5 times a week, for 6 weeks. 3 Sc. Total 3.

Music.

I. Mr. H. L. Stone. — Grammar of Music and Laws of Musical Construction. 5 times a week, for 6 weeks. 4 S. S. Total 4.

Mathematics.

☞ SD. Asst. Professor Love. — Advanced Algebra. 5 times a week, for 6 weeks. 1 Gr., 1 Se., 2 Ju., 4 So., 3 Fr., 3 Sc., 11 S. S. Total 25.

☞ SE. Dr. Huntington. — Solid Geometry. 5 times a week, for 6 weeks. 1 Gr., 1 Se., 4 Ju., 1 So., 1 Fr., 4 Sc., 5 S. S. Total 17.

☞ SA. Asst. Professor Bouton. — Plane Trigonometry. 5 times a week, for 6 weeks. 1 Se., 1 Ju., 9 So., 6 Fr., 4 Sc., 4 S. S. Total 25.

☞ SB. Asst. Professor Bouton. — Plane Analytic Geometry. 5 times a week, for 6 weeks. 3 Ju., 1 So., 1 Fr., 9 Sc., 3 S. S. Total 17.

S 2. Dr. Huntington. — Differential and Integral Calculus. 5 times a week, for 6 weeks. 5 Sc., 8 S. S. Total 13.

Physics.

B. Professor W. E. McElfresh and Mr. L. D. Hill. — Elementary Experimental Physics. 5 times a week, for 6 weeks. 1 Se., 1 Fr., 24 S. S. Total 26.

☞ *C.* Dr. H. W. Morse. — College Course in Experimental Physics. 5 times a week, for 6 weeks. 1 Sc., 1 R., 7 S. S. Total 9.

Chemistry.

Dr. Baxter, assisted by Mr. M. A. Hines. — Elementary Chemistry. 5 times a week, for 6 weeks. 12 S. S. Total 12.

Mr. R. C. Wells. — Physical Chemistry. 5 times a week, for 6 weeks. 7 S. S. Total 7.

Dr. Baxter, assisted by Messrs. R. C. Wells and A. B. Lamb. — Qualitative Analysis. 5 times a week, for 6 weeks. 13 S. S. Total 13.

Botany.

☞ S1. Mr. R. G. Leavitt, assisted by Mr. J. R. Johnston. — Introductory Course: Elementary Morphological, Physiological, and Œcological Botany. 5 times a week, for 6 weeks. 1 Se., 3 Ju., 5 So., 4 Fr., 1 Sp., 1 Sc., 1 R., 11 S. S. Total 27.

☞ S2. Mr. A. B. Plowman. — Advanced Course: Morphology, Histology and Œcology of Flowering Plants. 5 times a week, for 6 weeks.
1 S. S. Total 1.

Mr. J. R. Johnston. — Morphology and Development of Cryptogams. 5 times a week, for 6 weeks. 1 S. S. Total 1.

Geology.

☞ S1. Professor Shaler and Professor J. E. Woodman. — Elementary course. Lectures, laboratory, and field work. 5 times a week, for 6 weeks.
1 Ju., 2 So., 1 Fr., 3 Sc., 1 R., 9 S. S. Total 17.

Geography.

☞ Mr. H. T. Burr, assisted by Mr. F. M. Wilder. — Lectures, laboratory, and field work. 5 times a week, for 6 weeks.
1 Se., 1 Ju., 3 So., 3 Fr., 1 Sc., 1 R., 12 S. S. Total 22.

Commercial Geography.

Dr. C. A. Herrick. — Lectures, recitations, demonstration of methods, and excursions. General Course for Teachers. 5 times a week, for 6 weeks.
6 S. S. Total 6.

Physical Education.

Dr. Sargent and assistants. — Elementary and advanced courses in theory. 5 weeks. 1 Ju., 54 S. S. Total 55.

Dr. Sargent and assistants. — Elementary and advanced courses in practice. 5 weeks. 2 Ju., 131 S. S. Total 133.

The following courses were given in the summer as part of the regular instruction of the Lawrence Scientific School. Some of these courses were given at Squam Lake, New Hampshire: —

Engineering.

4*a*. Asst. Professor Hughes. — Plane Surveying. Field work. Daily, 6 weeks.
2 Gr., 1 Se., 23 Ju., 29 So., 11 Fr., 1 Sp., 46 Sc., 5 S. S. Total 118.

4*d*. Asst. Professor Hughes. — Railroad Surveying. Daily, 3 weeks.
2 Gr., 2 Se., 15 Ju., 20 So., 5 Fr., 1 Sp., 46 Sc., 5 S. S. Total 96.

4*c*. Asst. Professor Hughes. — Geodetic Surveying. Daily, 2 weeks.
1 Se., 15 Ju., 20 So., 5 Fr., 1 Sp., 38 Sc., 6 S. S. Total 86.

10*a*. Asst. Professor Burke, assisted by Mr. E. R. Markham. — Chipping, filing, and fitting. 90 hours.
2 Gr., 1 Ju., 2 So., 17 Sc., 3 S. S. Total 25.

10*b*. Asst. Professor Burke, assisted by Mr. E. R. Markham. — Blacksmithing. 90 hours. 3 Gr., 1 Ju., 2 So., 17 Sc., 2 S. S. Total 25.

10*c*. Asst. Professor Burke, assisted by Mr. E. R. Markham. — Pattern Making, etc. 90 hours. 2 Gr., 1 Ju., 18 Sc., 3 S. S. Total 24.

10*e*. Asst. Professor Burke, assisted by Mr. E. R. Markham. — Machine-Shop Practice. 90 hours. 2 Gr., 1 Ju., 19 Sc., 3 S. S. Total 25.

The Engineering Camp at Squam Lake has proved highly successful: the students work, and learn much — including the important truth that, even in summer, a vigorous life may be as happy as a lazy one.

For the first time the Faculty offered courses in Forestry: Mr. Fisher instructed twenty-eight students in Silviculture, Mr. Jack eighteen in Forest Measurements and thirteen in Forest Botany. Moreover, a four years' programme in preparation for the profession of Forestry was devised in the Lawrence Scientific School. Since Forestry is a subject for which the University has in the Arnold Arboretum peculiar facilities, and is, besides, a subject of great and growing importance, the establishment of courses in Forestry last year and the increase in their number this year are matters of congratulation. As yet, however, the University has made merely a beginning. Such a school of Forestry as it might and should have would require more teachers and more money.

One marked difference between Forestry at Harvard University and Forestry at other large universities is in the students who study it. Instead of limiting the courses to graduates we design them for undergraduates; and though we thus gain the opportunity of interesting the student early, we run the risk of dealing with him while he is immature. To the youthful mind the name Forestry is sometimes falsely seductive. It suggests a charming out of door life vaguely associated with hunting, fishing, and other sylvan sport — something quite different from mathematical computation of the amount of timber in felled or standing trees. The profession of a forester, though it has its aesthetic side, is difficult and commercial, a profession that preserves forests for economical and lasting use and only incidentally for beauty. By limiting to Scientific Students the courses in Forestry — so far as they are counted for a degree — and by uniting them in a four years' programme with other courses known to be difficult, the University does what it can to clear the minds of undergraduates who are considering the choice of Forestry as a genteel and easy profession for people who like to camp out in the woods.

THE LARGE LECTURE COURSES.

The splitting of History 1, referred to below, resulted in a shrinkage from four hundred and eight students in the History 1 of 1902–03 to three hundred and forty-six students in the History 1*b* of 1903–04; but the course was still too large for the comfort and for the complete efficiency of any teacher who met all the members at once in the lecture room. Other enormous courses were Government 1 with three hundred and seventy-six students, Geology 4 with four hundred and eighty-nine, and Economics 1 with five hundred and twenty-nine. The last named course was the largest elective course in the University. Even English *A*, the course prescribed for Freshmen and First-Year Scientific Students, contained but seventy-three more persons; and in English *A* no instructor met the whole class at once.

In my judgment the large lecture courses, though often conducted with remarkable skill, are seldom thoroughly efficient. Their hope lies in the provision of a satisfactory number of competent assistants who shall meet the students every week and test them, and shall counteract the evil effect of "self-tutoring" notes and other royal roads to examination learning. This is the method at which some of the lecture courses now aim; there is, however, great difficulty in getting enough satisfactory assistance for the price paid by the University.

The varied constituency of the large courses is worth consideration. Geology 4 contained Graduates, Seniors, Juniors, Sophomores, Freshmen, Special Students in the College, Scientific Students doubtless registered in divers ways, Medical Students, students from the Bussey Institution, and one Divinity Student.

Instruction provided for 1904–05.

In 1904–05, Mr. Lythgoe, a new instructor, offers courses in Egyptian Art and Archaeology. The Department of the Classics makes, as usual, a strong and varied offering, especially in subjects suitable for graduates. The Department of English, though it suffers severely from the loss or the absence of certain excellent teachers and from retrenchment in the number of its assistants, still offers many attractive courses, and some of great strength. With the promotion of Mr. I. L. Winter to an assistant professorship of Elocution, the half-course English 10 has been divided into several half-courses under the name of "Public Speaking." Each of these half-courses deals specifically with one part of the general subject formerly treated in English 10; and not more than one of them may be counted by any one student toward a degree. The Department of German, though feeling heavy losses among its best teachers, has made up for these losses to some extent. In Comparative Literature the loss of Assistant Professor Fletcher has seriously cut into the work. In Slavic two new half-courses are offered, primarily for graduates. In History the introductory course long known as History 1 was split a year ago into Modern European History

(History 1*b*) and Mediaeval History (History 1*a*). History 1*b* was first given in 1903–04, by Assistant Professor Coolidge, who had conducted History 1; History 1*a* is first given in 1904–05, by Professor Haskins. Assistant Professor Coolidge thus relieved, for this year, of an introductory course, offers two new half-courses in the Expansion of Europe since 1815; Dr. Merriman conducts a new course in European History of the sixteenth and seventeenth centuries; Mr. Johnston a new course in the History of Italy from 1789 to 1870, and Professor Channing a new half-course in Selected Topics in the Historical Development of American Institutions. In Government, since the income of a new professorship has become available, the offering is stronger than it was a year ago; and this study, which was formerly merged in History, has rapidly grown into a subject of the first importance: Professor Lowell's introductory course, by no means conspicuously easy, is one of the largest courses in the University. Economics maintains in 1904–05 the strength of its offering in 1903–04. Among the new courses in Philosophy should be noted a course under Dr. Brackett in Practical Problems of Charity, Public Aid and Correction. Courses in Education suffer temporarily from the absence of Professor Hanus in his sabbatical year; but the more important courses, including the seminary, are maintained. In Fine Arts the courses are still lamentably few. In Architecture, a well endowed Department, the offering is more nearly what it should be. Landscape Architecture is a young and vigorous subject, which promises to become more and more important. Forestry, another new subject, has increased its offering. Instruction in Music would be materially aided by a building worthy of the skill and the enthusiasm of the Department, which for obvious reasons needs a home of its own somewhat isolated from rooms that are used for general purposes; the courses in Music are substantially the same as they were last year. In Mathematics every instructor is of Faculty rank; and the offering, always excellent, is somewhat more excellent this year than in 1903–04. Among the new courses is a half-course in the Fundamental Concepts of Mathematics, conducted by Dr. E. V. Huntington; this course bids fair to be of exceptional interest to students of Philosophy.

On the whole, the instruction offered under the Faculty of Arts and Sciences has weathered the financial disaster of the preceding year with remarkable success. Outside of the Departments of English and German, wherein retrenchment has been sharpest, the deficits of 1902–04 have in most cases been felt not as a cause of contraction but rather as a preventive of expansion. Every healthy department of study tends to grow, and consequently to cost more; and every aggressive department resents a check to its growth.

In the announcement of instruction for 1904–05 one half-course that had proved dangerously easy was abandoned, and of one whole course and one half-course that had suffered from the same cause the latter was announced as no longer to be counted for the degree of A.B., the former as no longer to be counted for any degree. The soft courses, as they are called, are frequently among the most stimulating, if they are not clogged with students who take them for their softness. It is well therefore that they should be given, and well that in the fulfilment of requirements for a degree they should be counted lightly or not at all.

HARVARD COLLEGE AND THE COLLEGE ENTRANCE EXAMINATION BOARD.

In my last report I expressed a hope that a working relation might be established between Harvard College and the College Entrance Examination Board. In the course of the academic year, the Dean of Harvard College, as chairman of the Committee on Admission Examinations, learned from the various Departments represented in that committee whether, in their respective subjects, the latest examination papers of the Board might serve as sufficient tests for admission to Harvard College. It appeared that in most of the Departments these papers, even when not altogether pleasing to the Harvard examiners, would give sufficient evidence for the admission or rejection of a candidate in the subjects concerned. When the Committee on Admission Examinations had made sure of this fact, it presented to the Faculty, on May 3, the following recommendation:

> "Whereas, the Committee desires to work in harmony with the College Entrance Examination Board, *Voted*, to recommend to the Faculty that a committee of the Faculty be appointed to confer with the Board at its meeting, May 7, to discuss the possibility of establishing closer relations with that Board."

The motion was adopted; the Dean of the Faculty, the Dean of Harvard College, and Professor H. S. White were appointed as a committee.

Receiving assurance of a cordial welcome, this committee attended not only the meeting of the Board but the preliminary meeting of the executive committee of the Board. President Butler extended to the Harvard delegates every courtesy and gave them all possible information about the methods and the results of work in the Board. The Harvard committee reported unanimously that the University might wisely apply for membership in the Board; on May 17 the Faculty, by a vote of forty-four to seven, decided to apply; and in June Harvard University, by a unanimous vote of the Board, became a member. Already one or two of its officers held positions of trust under the Board; and the number of such persons was immediately increased. It remains for the Faculty to decide what papers of the Board shall be accepted as equivalent to Harvard papers, and whether examination books shall be read by Harvard examiners after they have been read by the examiners of the Board. If they are not read by Harvard examiners, it remains for the Faculty to decide what percentage shall allow a candidate to pass in each subject.

This new alliance, though its full significance cannot yet be judged, bids fair to help Harvard College, the College Entrance Examination Board, and all secondary schools.

GENERAL SCIENCE IN THE LAWRENCE SCIENTIFIC SCHOOL.

In December, 1903, the Faculty adopted regulations to strengthen the work of students in General Science at the Lawrence Scientific School. When the requirements for admission were much lower in the Lawrence Scientific School than in Harvard College, a good many persons by no means scientific seized the opportunity of early tenure in the University, and, having registered themselves as students in General Science, were permitted, after a rather solid first year, to exercise great freedom in the choice of studies. As the President of the University and the Dean of the School pointed out, these persons did not belong in the Scientific School. All the science they wanted — and a great deal more — they might have had as members of Harvard College, if they could have got into that institution. Being neither scientific nor students they were not properly Scientific Students; and having entered the University ill-prepared, they tended to lower the standard of work in such courses as they undertook. With the strengthening of the admission requirements in the Lawrence Scientific School, there is no reason why the students in General Science should remain, as a body, inferior persons; and with the new regulations imposed on their work they become Scientific Students in fact as well as in name.

SOME EFFECTS OF THE REVISED REQUIREMENTS FOR THE DEGREE OF A.M. ON STUDENTS FROM OTHER UNIVERSITIES AND COLLEGES.

The revised requirements for the degree of A.M., which were stated in my last report and discussed in the last report of the Dean of the Graduate School, tend to increase the number of students in the Graduate School at the expense of the number in Harvard College. Formerly, many graduates of colleges which admit persons as Freshmen a year before Harvard College would admit them entered Harvard College as Seniors. Now such persons naturally enter the Graduate School; and if their work is advanced enough and well done, they may take the Master's degree in one year. Since undergraduates of such colleges are rarely admitted to Harvard College *ad eundem*, and, if allowed to take the Harvard A.B. as early as they would take the A.B. of their own colleges, are required to do a good deal of extra work, the able student with Harvard yearnings is now tempted to still those yearnings until after graduation. This state of things cannot but affect the recruiting of all the classes in Harvard College to which students from other colleges are transferred.

The transference of students from other colleges has, in recent years, given rise to a new kind of Special Student. If an applicant from another college has been in it but a year, or if he comes from a college whose standards are unknown or whose work is not readily translatable into Harvard terms, he is registered as a Special Student until at least a year of Harvard work has shown to what Harvard class he may be safely transferred. This suspension of judgment has proved good for all persons concerned except applicants for pecuniary aid. Persons who, if admitted to regular standing, would be eligible for Price Greenleaf money, are as Special Students ineligible; and the amount of pecuniary aid available for Special Students is small.

DEGREES CONFERRED IN THE MIDDLE OF THE ACADEMIC YEAR.

In March the Faculty made for the first time recommendations for Mid-Year degrees; and the governing boards conferred, without ceremony, the Bachelor's degree on seven candidates in Arts and three in Science. Such candidates are of two sorts — persons half a year ahead of their original classes, and persons half a year or more behind.

THE DEGREES OF MINING ENGINEER AND METALLURGICAL ENGINEER.

In March the Administrative Board of the Lawrence Scientific School recommended: —

"That the Faculty be asked to request the President and Fellows of Harvard College to institute the degrees of Mining Engineer (M.E.) and Metallurgical Engineer (Met. E.) to be given to Bachelors of Science in Mining and Metallurgy of Harvard University, or to holders of an equivalent degree, on the completion of one year of prescribed study to be approved by the Faculty of Arts and Sciences as affording a suitable preparation for these degrees."

The recommendation was adopted; and the new degrees were established by vote of the governing boards.

PROCEEDINGS AGAINST THE A.B. FOR WORK DONE IN THE GRADUATE SCHOOL, AND THE A.M. FOR WORK DONE IN HARVARD COLLEGE.

In April, 1903, the Faculty voted to recommend no one for the degree of A.B. (after that year) on the strength of work done in the Graduate School. In May, 1904, the converse proposition to recommend no one for the degree of A.M. on the strength of work done in Harvard College was referred to the Administrative Boards of the Graduate School and Harvard College for consideration and report. These Boards agreed in proposing a modification of the proposition of May, 1904; but their report was not made until June 21, and not adopted till the present academic year. The vote of April, 1903, and the proposition of May, 1904, aimed at a requirement of clean edges in the work for each degree and at the abolition of the "consolation A.B." for Graduate Students and the "postponed A.M." for persons who have never been Graduate Students. The "consolation A.B." I discussed in my last report. The "postponed A.M." is taken by two kinds of persons: (*a*) those who complete the work for the A.B. in three years but, preferring to take the A.B. at the end of the fourth year with their classmates, devote the fourth year, as Seniors in Harvard College, to work which entitles them to the A.M. at the end of a fifth year, without residence or study after the fourth; (*b*) those who almost complete the work for the A.B. in three years and do in the fourth year the remaining portion plus such work as is done by those described under (*a*).

The question of the "postponed A.M." is involved with the question of scholarships, since a Senior has hitherto been allowed to hold an undergraduate scholarship when all his undergraduate work is done and he is working for the Master's degree under the direction of the Graduate School, of which he is not a member.

THE COMMITTEE ON IMPROVING INSTRUCTION IN HARVARD COLLEGE.

At the end of my last report I touched briefly on the conclusions reached by the Committee on Improving Instruction in Harvard College, which committee, after more than a year of investigation and deliberation, made, in the autumn of 1903, a report to the Faculty. Of this report, which was printed entire in the *Harvard Graduates' Magazine*, the chief conclusions were as follows:

"1. The relation between the instructors and the students is good, and the students are in general satisfied with their elective studies.

"2. The average amount of study, however, is discreditably small.

"3. The difficulty of raising the standard is seriously increased by students taking six courses each.

"4. The requirements of time and study in the various courses should be as nearly equivalent as possible. Certainly there should not be such discrepancies as exist at present.

"5. Large lecture courses have come to stay.

"6. Yet in the large lecture courses a special effort should be made to increase the amount and the thoroughness of the work.

"7. For this purpose the number of assistants should be increased.

"8. Every effort should be made to secure such a number and such an apportionment of lecture rooms as shall enable the instructor to use his lecture room before and after the hour of his lecture.

"9. It is a mistake to prescribe introductory lecture courses as a preliminary to all further study of the subjects that they treat.

"10. Every subject in the college should be taught on the principle that a thorough knowledge of it is a valuable part of a liberal education.

"11. Every serious man with health and ability should be encouraged to take honors in some subject."

The Committee, in its investigation, had questioned students as well as instructors; and in the seventeen hundred and fifty-seven replies of students it received information about the various courses of instruction from the point of view of the instructed. This information was gathered in a way that insured its freedom from either flattery or fear, and is believed by every member of the Committee to be invaluable. It shows, as might have been foreseen, a generally admirable relation between student and instructor, and gives criticism which is frank, alert, and appreciative. Most of the suggestions offered by students were worth thinking about; and some were put to immediate use. These replies from students confirmed the Committee in its conviction that acquaintance with methods of instruction involves acquaintance with those methods as seen and felt by the persons to whom they are applied.

Out of the report of the Committee sprang divers motions whereof some were referred at the end of the year to another committee, which has recently reported, and one, made in January by Professor Morgan, was referred to a large new committee, which reported in March. Professor Morgan's motion was

"(*a*) That in the opinion of the Faculty every undergraduate of superior ability should look to a considerable amount of advanced work in some subject or group of related subjects as a natural part of his undergraduate career.

"(*b*) That it is desirable to appoint a committee to prepare and report a plan under which the degree of A.B. *magna* and *summa cum laude* shall in future be given only to students who have taken a considerable amount of advanced work in some subject or group of related subjects, and that the committee consider the advisability of adopting a plan by which candidates for honors may be relieved from taking examinations in their elective courses during the last year of candidacy for honors."

On the recommendation of the Committee the Faculty adopted the following scheme: —

"BACHELOR OF ARTS WITH DISTINCTION.

"1. The Degree of Bachelor of Arts with Distinction is awarded in two grades, *cum laude* and *magna cum laude*.

"2. *Cum laude* on General Studies. A candidate is recommended for the degree *cum laude* who has obtained grade A or B in nine elective courses, but courses regularly open to Freshmen to count for this purpose only as half-courses. He must have obtained a grade above D in at least two-thirds of his remaining work, that being the standard now required for the degree without distinction.

"3. *Cum laude* on a Subject or Related Subjects. A candidate is recommended for the degree *cum laude* who has completed a considerable amount of advanced work in some subject or related subjects, and who has been recommended on the ground of this work to the Faculty by a Division or a Department, or by a Special Committee* appointed by the Faculty for this purpose. He must have obtained a grade above D in at least two-thirds of his remaining work, that being the standard now required for the degree without distinction.

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* E.g., the Committee on Honors in Literature, which may well recommend a candidate on studies in related subjects.

"4. *Magna cum laude.* A candidate otherwise qualified for the degree *cum laude* on a subject or related subjects is recommended for the degree *magna cum laude* who has been recommended to the Faculty for this degree by a Division or a Department or by a Special Committee on the ground of high distinction.

"5. The subject or related subjects in which the degrees *cum* and *magna cum laude* are conferred under sections three and four will be mentioned in the diploma and on the Commencement Programme.

"6. A candidate who fails of recommendation for the degrees mentioned under sections three and four may receive the degree without distinction on the recommendation of the Division, Department, or Committee concerned.

"7. The various Divisions, or, if the Division prefers, a Department forming a part of a Division, shall formulate for publication, and submit to the Faculty for its approval, general provisions under which they will be prepared to recommend candidates for the degrees with distinction to the Faculty. In forming plans, a Division or Department should base them on an amount of work about equivalent to but not exceeding half the time devoted to elective work in College, and should feel free to include in their plans related courses under the direction of other Divisions or Departments.

"8. The test employed by a Division or Department or Special Committee to decide its recommendation for the degree *magna cum laude* should, so far as possible, be not of a different character from that of the test employed in the case of the degree *cum laude*, but the recommendation should be made upon evidence of high distinction in the manner in which the candidate deals with that test.

"9. A student intending to become a candidate for a degree with distinction on a subject or related subjects will record his name at the office of the Dean of Harvard College. This he may do as early as the beginning of his Sophomore year, or at any time not later than November 1st of the academic year in which he expects to receive the degree; but a Division, Department, or Special Committee may fix as the latest date in its own case a time earlier than November 1st of that year.

"10. A student who records himself as intending to become a candidate for the degree with distinction on a subject or related subjects is entitled to have his name placed upon a List at the beginning of his Sophomore year, providing he has not fallen below C during his Freshman year, or at any later time when he has satisfied the Dean of Harvard College that he is fit to have his name placed upon the List; and any student who has been in one of the first two groups of scholarship holders during any year is entitled to have his name placed upon the List during the succeeding year. The name of any student may be withdrawn from the List at any time on recommendation of the Department under which he is working, or by the Dean after consultation with that Department, if the student fails to obtain or maintain after being entered on the List a standard of scholarship and conduct satisfactory to the Dean.

"11. Students whose names are on the List will, except for registration, be trusted by the Dean with greater responsibility and discretion in the ordering of their College work, so far as this does not interfere with the collective interests of the classes or sections to which they belong, and will be excused during their last year in College from examinations in courses belonging to their subject or related subjects, in case the Division or Department under which they are working has provided some other public test than those examinations as the ground for its recommendation."

As a result of these votes, the several Departments proposed terms of Departmental distinction analogous to the present Honors but designed to be more widely attractive. Their proposals, as condensed, tabulated, and presented to the Faculty, seemed to some members of that body too divergent to be safe; and these persons, together with those who had been or began to be sceptical about other results of the Committee's report, made a majority which prevented the Faculty from putting into immediate practice the scheme adopted on the recommendation of the Committee. The scheme still stands; but another committee, of which the Dean of Harvard College is chairman, is at work on the application of it in detail.

THE CELEBRATION OF THE PRESIDENT'S BIRTHDAY.

From the records of the Faculty I take the story of the most memorable meeting in the year: —

"On February 2, when the President left the Faculty meeting early, the Faculty took the opportunity of appointing a committee on the celebration of his birthday, March 20. On February 11, when the President was in New York, the Faculty had a special meeting, at which the Dean reported that Mrs. Eliot had been consulted, that the Faculty might have a few minutes of the President's time in the afternoon of March 20, and that the committee had in mind a piece of silver as an appropriate gift. The Faculty then appointed the Dean, Professor Lowell, and Professor Willson, as a committee with full power.

"On Sunday, March 20, at three o'clock, the 'members' of the Faculty met in the Faculty Room; and the President, at the request of Mrs. Eliot, came a few minutes later. Mrs. Eliot, summoned that day by the committee, came with him. At what is believed to be the largest meeting in the history of the Faculty, the President received a silver cup modelled on a Greek vase or cup of the fifth century B.C. On the cup was an inscription written by Professor Hill: —

"'Charles William Eliot, President of Harvard University, from the Faculty of Arts and Sciences, March 20, 1904, in grateful acknowledgment of his devotion to the University for thirty-five years, and of his passion for justice, for progress, and for truth.'"

The Faculty of Arts and Sciences is made up of singularly independent men. Its members are chosen without reference to their probable agreement or disagreement of opinion with each other or with anybody else. Many of them are strongly opposed to much that the President holds dear in education, in the policy of the Faculty, in a hundred other things, and speak out their opposition as part of their loyalty to themselves, to the University, and to him. It was natural therefore that every member of the Faculty who was within reach should join in honoring a leader who teaches freedom.

L. B. R. BRIGGS, *Dean.*

THE COLLEGE.

To the President of the University: —

Sir, — I have the honor to submit to you a report on the condition of Harvard College for the academic year 1903–04.

The total number of students at the beginning of November, 1904, was two thousand and seventy-three, divided as follows: —

Seniors	325
Juniors	425
Sophomores	630
Freshmen	556
Total number of Undergraduates	1936
Special Students	137
Total	2073

Compared with the registration at the corresponding time in 1903, these figures show a net loss of thirty-six: —

	Gain.	Loss.
Seniors	..	56
Juniors	5	..
Sophomores	52	..
Freshmen	..	52
Special Students	15	..
	72	108
		72
Net loss		36

During the year the following students died: —

John Joseph Walsh, '04,	Died February 4, 1904.
Henry Clarkson Carter, '06,	Died March 17, 1904.
Thomas Edward Shaughnessy, '06,	Died September 18, 1904
Harry Thayer Whitmarsh, '06,	Died July 19, 1904.
George Scott Baldwin, '07,	Died December 12, 1903.
Henry Mather Stone, '07,	Died May 27, 1904.
Carlos Sanborn Nudd, Special,	Died July 15, 1904.

At Commencement, 1904, four hundred and sixty students, of whom three hundred and three were registered as Seniors, received the degree of Bachelor of Arts, as compared with five hundred and fifteen, of whom three hundred and twenty-one were registered as Seniors, in 1903. The figures of 1904 should be compared with those of 1902 rather than with those of 1903, for in 1904 the practice of taking the degree at the end of the third year "as of" the class to graduate one year later was first established, and the number of recipients of the degree in 1903 included forty-six who in the *Quinquennial Catalogue* will appear as members of the Class of 1904. In 1902 four hundred and twenty-seven, of whom three hundred and eight were registered as Seniors, received the degree. The registration of the one hundred and fifty-seven who were not registered as Seniors, either for the whole or for half of the year, is shown in the next table, which exhibits also the corresponding figures for 1901, 1902, and 1903:—

	1901.	1902.	1903.	1904.
On leave of absence all the year	18	47	43	35
On leave of absence first half-year	1	..	6	3
On leave of absence second half-year	..	15	33	2
Graduate Students	13	9	6	8
Registered in Law School	27	20	30	28
Registered in Medical School	7	7	7	2
Registered in Dental School	1	..	..	..
Registered in Divinity School	..	1	..	..
Registered in Scientific School	2	7	6	7
Special Students	3	1	..	2
Registered in Junior Class	8	6	11	6
Registered in Sophomore Class	8	6	6	9
Registered in Senior Class of 1900	2	..	..	..
	90	119	148	102
To be designated as of the next year in the *Quinquennial*	..	..	46	48
Received degree at Mid-year	..	..	..	7
			194	157

Of the new provision of the governing boards, whereby a student may receive his degree at the middle of the year, but seven took advantage. The decrease in the number of students taking leave of absence for the second half-year is notable.

The next tables show the losses and gains in the three younger classes between November, 1903, and November, 1904:—

	November, 1903.		Loss.	Gain.	November, 1904.	
Class of 1905	(Juniors)	427	211	49	(Seniors)	265
Class of 1906	(Sophomores)	629	237	51	(Juniors)	443
Class of 1907	(Freshmen)	556	123	177	(Sophomores)	610
			571	277		

Net loss in the three classes between Nov., 1903, and Nov., 1904, . . . 225

(69 more than in 1903)

	Class of 1905.	Class of 1906.	Class of 1907.	Total for three classes.
LOSSES.				
Left College before the end of the year . .	7	33	35	75
Left College at the end of the year	182	42	29	253
Were "dropped" and left College	1	25	1	27
Entered a lower class	16	104	42	162
Entered a higher class	5	33	16	54
Total loss	211	237	123	571
GAINS.				
From higher classes	6	19	121	146
From lower classes	33	15	00	48
Newly admitted	10	17	56	83
Total gain	49	51	177	277
Net loss	162	186	. .	294
Net gain	. .	. .	54	. .

The next table shows the losses and gains in the number of Special Students since December, 1903: —

In attendance, December, 1903	139
Left College before the end of the year	25
Left College at the end of the year	42
Entered a College class	32
Total loss	99
Reëntered College as Special Students, 1904	40
Newly admitted	106
Total	146

The Freshman Class of 1904–05 numbers eleven less than the corresponding class of 1903–04: —

Admitted by examination in 1904	449
Admitted by examination before 1904	27
From a higher class	56
" the Special Students	7
" the Lawrence Scientific School	6
Total	545

Sixty-six candidates, who took in June some of their final examinations for admission, intending to postpone the remainder until September, did not complete this examination in September: three of these were transferred to the Lawrence Scientific School as postponing candidates, and one took examinations over in September for the Lawrence Scientific School; of the remaining sixty-two, nineteen passed in so few subjects that they were notified that they must take all of their examinations over again in September (thirteen of these nineteen tried over their examinations); twenty-four of the sixty-two were not allowed to try the examinations again; two who might have gone on preferred to try all of their examinations again in order to secure a better record. Fifteen, rejected in June, took their examinations again in September; and fourteen, who registered as postponing candidates but who passed in a sufficient number of points to entitle them to admission, were allowed to change their registration, and received admission certificates. Eleven, who took examinations for Harvard College, were later admitted to the Lawrence Scientific School, and four, who had been admitted to the Scientific School, were afterwards admitted to Harvard College. Thirteen, who presented themselves as final candidates, were allowed, after the examinations, to count a part of the examinations they had passed for a preliminary certificate. One preliminary candidate who took his examinations for Harvard College became a candidate for the Scientific School. One, rejected in June, was changed to a postponing candidate for the Lawrence Scientific School; and seven boys, exceptional cases, were allowed to add to a preliminary certificate.

Six hundred and forty-nine candidates, forty-four more than in 1903, took Final Examinations. Of the six hundred and forty-nine, four hundred and ninety-one had preliminary certificates (among these were nine who, for special reasons, had divided their examinations among three years, six completing their examination in June, and three in September); seventy-one divided the examinations between June and September; thirty-three took all of their examinations in June; nineteen took all in September; thirty-five who had a preliminary certificate divided their Final Examinations between June and September. Three preliminary candidates were, with the approval of the head masters of their schools, allowed to become postponing candidates:

	Admitted.	Admitted "Clear."	Rejected.
June	444	228	43
September	128	19	34
Total	572	247	77

Of the six hundred and forty-nine candidates, four hundred and ninety-two offered ancient history rather than modern; fifty-nine, modern rather than ancient; sixty, both ancient and modern; fifteen, ancient and advanced European; eight, modern and advanced European; seven, ancient and the history of a period; and eight, neither.

The next table shows, in order of the number of choices, the offerings of advanced subjects: Latin as usual holds the first place.

	1902.	1903.	1904.
1.	Latin.	Latin.	Latin.
2.	French.	French.	French.
3.	Greek.	Greek.	Greek.
4.	German.	German.	German.
5.	Log. and Trig.	Log. and Trig.	Solid Geometry.
6.	History.	Solid Geometry.	Log. and Trig.
7.	Solid Geometry.	History.	History.
8.	Algebra.	Algebra.	Algebra.
9.	Astronomy.	Astronomy.	Physics.
10.	Physics.	Physics.	Meteorology.
11.	Meteorology.	Meteorology.	Astronomy.

The next table gives the details on which the foregoing table is based: —

Number of candidates offering	1902.		1903.		1904.	
		Per cent.		Per cent.		Per cent.
Advanced Greek	317	48.25	279	46.12	281	43.30
Advanced Latin	541	82.34	504	83.31	511	78.74
Advanced German	157	23.90	182	30.08	204	31.43
Advanced French	401	61.04	344	56.86	385	59.32
Advanced History	82	12.48	78	12.89	90	13.87
Logarithms and Trigonometry	97	14.76	100	16.53	121	18.64
Solid Geometry	77	11.72	85	14.05	122	18.80
Advanced Algebra	71	10.81	51	8.50	64	9.86
Advanced Physics	2	.30	4	.66	6	.92
Astronomy	6	.91	6	.99	4	.62
Meteorology	1	.15	2	.33	5	.77

The next two tables show, for each study, the percentage of failure (*A*) in the complete records of the candidates, including the records of their successful Preliminary Examinations, and (*B*) in their records at Final Examinations only: —

(*A*)	1899.	1990.	1901.	1902.	1903.	1904.
ELEMENTARY STUDIES.						
English	9.6	10.2	9.42	6.25	8.43	3.86
Greek	10.6	4.	3.18	3.16	3.55	3.61
Latin	4.65	6.	3.91	5.91	6.77	7.45
German	22.97	17.85	16.67	17.82	11.19	16.61
French	6.65	7.6	7.05	7.71	7.09	9.69
History (Ancient)	5.	8.2	10.46	12.14	10.71	7.65
History (Modern)	10.	7.44	16.54	16.67	6.49	8.75
Algebra	16.55	14.	14.97	10.44	10.70	11.20
Geometry	. .	24.	7.06	13.83	11.11	9.33
Plane Geometry	25.7	26.60	16.38	21.86	17.03	17.05
Physics	18.53	18.44	17.07	17.97	14.38	14.88
Chemistry	18.48	12.	10.82	6.90	11.11	13.83
Physiography	. .	11.	33.33	64.29	57.89	28.57
Anatomy	. .	20.	50.	27.27	50.	30.77
Harmony	. .	. .	. .	. .	. .	. .
ADVANCED STUDIES.						
Greek	14.28	13.16	12.96	11.04	9.32	9.25
Latin	20.	23.45	21.74	27.36	20.42	27.01
German	26.61	30.	31.21	31.85	28.57	37.75
French	18.37	26.47	27.57	22.19	25.29	21.04
History	. .	41.66	45.1	35.37	42.31	37.78
Logarithms and Trigonometry	26.17	23.86	28.85	25.77	23.	33.06
Solid Geometry	20.98	22.58	27.78	41.56	44.71	37.70
Algebra	35.	41.17	48.	56.34	19.61	50.
Physics	37.5	37.5	71.43	100.	75.	66.67
Astronomy	. .	100.	.00	66.67	66.67	50.
Meteorology	. .	50.	100.	.00	.00	20.

(*B*) ELEMENTARY STUDIES.			ADVANCED STUDIES.		
	1903.	1904.		1903.	1904.
English	11.39	5.60	Greek	9.59	9.56
Greek	11.86	13.22	Latin	21.33	28.75
Latin	15.50	21.62	German	31.52	44.51
German	24.86	29.78	French	33.33	26.91
French	17.24	22.98	History	44.59	38.64
History (Ancient)	18.75	14.24	Log. and Trig.	24.21	34.78
History (Modern)	12.20	17.07	Solid Geometry	47.50	39.32
Algebra	26.56	28.13	Algebra	20.83	53.33
Geometry	18.37	16.28	Physics	75.	66.67
Plane Geometry	22.34	25.26	Astronomy	66.67	50.
Physics	16.49	17.94	Meteorology	.00	20.
Chemistry	13.04	17.22			
Physiography	57.89	30.77			
Anatomy, etc.	50.	36.36			
Harmony	66.67	.00			

As usual the greatest fluctuation in percentages is in the subjects offered by fewest candidates.

Six hundred and fifty-nine candidates (fifty less than in 1903) took Preliminary Examinations; of these, five hundred and twelve (sixty-one less than in 1903) received certificates: —

Eight points	58
Nine "	7
Ten "	87
Twelve "	101
Thirteen points	3
Fourteen "	111
Fifteen "	5
Sixteen "	73
Seventeen "	3
Eighteen "	36
Nineteen "	2
Twenty "	16
Twenty-two "	5
Twenty-three "	3
Less than eight points	2
Received certificates	512
Failed	147
Total number of candidates	659

The next table gives the percentages of failure in Preliminary Studies: —

ELEMENTARY.	1903.	1904.	ADVANCED.	1903.	1904.
English	39.39	27.34	Greek	14.29	36.36
Greek	8.57	9.19	Latin	58.90	54.72
Latin	23.54	36.78	German	40.	20.41
German	27.47	30.05	French	35.62	35.20
French	20.59	25.55	History	83.33	50.
History (Ancient)	27.79	22.76	Log. and Trig.	37.50	33.33
History (Modern)	26.87	35.29	Solid Geometry	73.68	38.46
Algebra	25.70	24.19	Algebra	60.	40.
Geometry	21.28	34.62	Physics	Not off'd	*100.
Plane Geometry	26.03	27.09	Astronomy	Not off'd	*100.
Physics	19.08	17.21	Meteorology	Not off'd	
Chemistry	30.43	9.43			
Physiography	50.	40.			
Anatomy, etc.	57.14	.00†			
Harmony	.00*	.00*			

† Two candidates only. * One candidate only.

In printing statistics of "Credits" won at the examinations for admission to College, I give (*A*) the "Credits" won this year at Final Examinations; (*B*) those won this year and some earlier year by the Final Candidates of this year; and (*C*) those won this year at Preliminary Examinations: —

(*A*) ELEMENTARY STUDIES.			ADVANCED STUDIES.		
	June.	Sept.		June.	Sept.
English	22	1	Greek	53	1
Greek	8	3	Latin	41	2
Latin	6	2	German	18	0
German	26	0	French	5	2
French	6	0	History	1	0
History (Ancient)	25	4	Log. and Trig.	14	0
History (Modern)	2	0	Solid Geometry	8	0
Algebra	29	6	Algebra	4	1
Geometry	2	0	Physics	0	0
Plane Geometry	21	0	Astronomy	0	0
Physics	105	16	Meteorology	2	0
Chemistry	13	4			
Physiography	2	2			
Anatomy, etc.	2	0			
Harmony	1	0			
	270	38		146	6

(*B*) ELEMENTARY.		ADVANCED.	
English	23	Greek	54
Greek	51	Latin	44
Latin	80	German	28
German	65	French	8
French	32	History	1
History (Ancient)	53	Log. and Trig.	14
History (Modern)	10	Solid Geometry	8
Algebra	156	Algebra	4
Geometry	6	Physics	0
Plane Geometry	35	Astronomy	0
Physics	144	Meteorology	2
Chemistry	19		
Physiography	2		
Anatomy, etc.	3		
Harmony	1		
	680		163

(*C*) ELEMENTARY.		ADVANCED.	
English	2	Greek	1
Greek	44	Latin	1
Latin	38	German	12
German	38	French	1
French	12	History	0
History (Ancient)	31	Log. and Trig.	0
History (Modern)	1	Solid Geometry	0
Algebra	115	Algebra	3
Geometry	1	Physics	0
Plane Geometry	13	Astronomy	0
Physics	36	Meteorology	0
Chemistry	8		
Physiography	0		
Anatomy, etc.	0		
	339		18

Although the number of candidates who took final examinations this year was larger than that of last year, the Freshman Class is slightly smaller. Accurately to determine the reason for this is, of course, impossible; but the investigations of Professor Charles P. Parker, Chairman of the Committee of Freshman Advisers, have produced interesting and suggestive results. He writes as follows:

"One hundred and eight men who were admitted to Harvard College last summer have failed to register in the College this fall. Eight of these have gone to the Lawrence Scientific School and one to the Dental School, leaving ninety-nine who did not register in the University. Of these about thirty-five are likely to enter next year, leaving sixty-four who will not enter the University at all. At least twenty-two of these have gone to other colleges. There will be about forty-two of whom we shall not be able to give any sure account. Of these more than thirty will be men who came from New England high schools and academies, including public Latin schools. Last year there were seventy-three men admitted who did not register in the College. Five of these entered the Lawrence Scientific School, leaving sixty-eight who did not register in the University that fall. Twenty-eight of these entered a year later, leaving forty who did not enter the University at all. Of these forty at least eleven entered other colleges. Of the other twenty-nine no sure account can be given. More than twenty of them came from New England high schools and academies, including public Latin schools.

"Men trained in the preparatory schools frequented by rich men's sons, when failing to register, have in both years usually signified their intention of entering a year later. The number of such men this year is about seventeen. Last year their number was eleven.

> "The failures to register were this year at least thirty more than the previous year. I have noticed that the number was about seventy for several years, and was not prepared for such an increase. I think it is partly accounted for by an increase in the number of rich men's sons who, owing to youth or a desire to travel, have postponed entrance for a year. But some fifteen or twenty men more than last year of those admitted from New England high schools and academies did not come. It would be unsafe to draw any positive conclusions as to the cause of this. It may be an isolated fact like the abnormally large Freshman Class which entered two years ago."

The members of the Administrative Board for the year were Professors Willson, C. P. Parker, Gardiner, Coolidge, Johnson, Ward, Gulick, Palache, Woodworth, Wright; Messrs. Cram, Cobb, Hart, and Whittemore.

During the year two students were expelled for burglary; two were dismissed, one for cheating in thesis work and lying about it, and one for cheating in a final examination; three were suspended, one for dishonesty in connection with the written work of a course, and two for lengthening the Spring Recess without permission; eight on probation had their probation closed for unsatisfactory records; twenty-eight withdrew upon advice or under pressure.

The number of scholars winning a position in the First Group (pp. 110, 111) on the work of the year 1903–04 was fifty-four as against seventy the preceding year. Of the fifty-four thirty-one received scholarships with stipend, twenty-three honorary scholarships. In the preceding year twenty-six students in the First Group held honorary scholarships, and forty-four stipendiary.

In 1890, when the Faculty of Arts and Sciences was organized, the Regulations for Students in Harvard College were printed with this head-note, which has ever since remained there: —

> "These Regulations are issued for temporary use, pending a revision of all the Regulations by the Faculty." . . . .

These regulations, save for the new rules for promotion, which went into effect with the Class of 1905, and a few minor changes, are as they were in 1890. The Faculty has never undertaken the promised revision. Fourteen years of experience show that in the main they have worked well, but the increase of the College in numbers has made the administration of two of the rules (3 and 4) difficult and unsatisfactory, and some change, especially in Rule 4, is desirable.

> "3. Continuous residence at the University is required during term-time. No interruption of residence is permissible, except for

satisfactory reasons stated to the Recorder (orally, if possible) before the student leaves Cambridge. The student who has been absent must also report in person to the Recorder immediately on his return.

"4. A student prevented by sickness or other cause from attending college exercises for a day or more must send notice to the Recorder without delay. Immediately upon his return to duty, he must make, at the Recorder's office (4 University Hall), a specific statement of the cause of his absence; and, if his explanation is satisfactory, his absence will be excused."

"Continuous residence" has been interpreted as attendance upon College exercises. Outside of these a student is free to spend his time where he pleases. A considerable number of students keep their engagements with praiseworthy regularity, but a larger number fall easily into the habit of "cutting." The best way to eradicate this evil is hard to find: in a discussion of it and the relation of students to daily attendance, the students themselves should be divided into two classes, those of scholarship rank and those who fall below this. For the first class Rule 3 should be made more flexible. A student who constantly — not by fits and starts — keeps his work at the honor standard, presenting his theses or other written tests at the appointed time, with whom the instructor is steadily satisfied, — whose record at November, the mid-years, April, and the final examinations, shows that he maintains this standard, — may, and should be, trusted to adjust his hours for himself. He fulfils the purpose for which he is here; the very fact that he is doing his work well insures proper attendance. If, then, such a student wishes to leave Cambridge for two or three days, he may fairly be allowed to do so. Practically never is a student of this class called to the Office for an unsatisfactory record of attendance. It is only with men who fall below the honor standard that the administrative officers have trouble. A large body of these men attend with fair regularity, and attain in their studies a standing which allows them to pass from class to class without either praise or censure; but in addition to these there remains a considerable number who absent themselves from as many College engagements as they can without making a record which will quite warrant the Administrative Board in sending them away, at least without the most vigorous protests and complaints of unfair treatment from both the offending students and their parents. How to deal with these students is one of the most perplexing problems presented to the Board; not infrequently the difficulty is increased by the action of parents themselves, who feel that it is quite legitimate for their

Class.	Name.	Scholarship.	Home.	School.
'06	Herbert Percy Arnold	Price Greenleaf	Quincy	Quincy High School.
'05	Clarence Grover Bachrach	John Harvard	Brooklyn, N.Y.	Erasmus Hall High School, Brooklyn, N.Y.
'05	Winthrop Bellamy	Bowditch	West Newton	Newton High School.
'05	George David Birkhoff	John Harvard	Chicago, Ill.	University of Chicago.
'07	Leonard Bloomfield	John Harvard	Elkhart Lake, Wis.	R. A. Waller High School, Chicago, Ill.
'06	John De Quedville Briggs	John Harvard	Cambridge	Cambridge Latin.
'05	Donald Walton Davis	Price Greenleaf	Frazer, Pa.	State Normal, West Chester, Pa.
'05	Dudley Davis	John Harvard	New York, N.Y.	St. Mark's, Southborough.
'05	Harold Simpson Deming	John Harvard	New York, N.Y.	Phillips Academy, Andover.
'05	Richard Priest Dietzman	John Harvard	Louisville, Ky.	Male High School, Louisville, Ky.
'05	Francis Munroe Endicott	John Harvard	Boston	St. Mark's, Southborough.
'06	Robert Franz Foerster	Price Greenleaf	Pittsburg, Pa.	Central High School, Pittsburg Pa.
'05	John Lanman Galey	John Harvard	Buffalo, N.Y.	Central High School, Buffalo, N.Y.
'07	Seth Thomas Gano	Jacob Wendell	Milford, N.Y.	State Normal, Oneonta, N.Y.
'06	Monroe C. Gutman	John Harvard	New York, N.Y.	Sachs Collegiate School, New York, N.Y.
'05	Lewis Wendell Hackett	Price Greenleaf	Belmont, Cal.	Belmont School, Belmont, Cal.
'06	Robert Lee Hale	John Harvard	Cambridge	Albany Academy, Albany, N.Y.
'07	Gorham Waller Harris	John Harvard	Somerville	Somerville Latin High School.
'05	Fitch Harrison Haskell	John Harvard	Ashtabula, O.	Phillips Academy, Exeter, N.H.
'06	Herbert Lester Healy	Bowditch	South Boston	Roxbury High School.
'05	Eugene Arthur Hecker	Richard Augustine Gambrill Palfrey Exhibition	St. Louis, Mo.	High School, St. Louis, Mo.
'05	Edgar Ray Holmes	Price Greenleaf	Cambridge	Syracuse University.
'06	Arthur Merle Hurlin	John Harvard	Jackson, N.H.	Brewster Free Academy, Wolfboro, N.H.
'06	Theodore Francis Jones	Price Greenleaf	Allston	Boston Latin School.
'06	Myer Kabatchnick	Bowditch Wendell Phillips Memorial	Scranton, Pa.	High School, Scranton, Pa.

'07	Harry Wheatland Litchfield	Crowninshield	North Pembroke	Rockland High School.
'06	Robert Howard Lord	John Harvard	Plano, Ill.	Northwestern University, Evanston, Ill.
'06	Donald Macomber	Bowditch	Newtonville	Newton High School.
'05	Frank Richardson Mason	Class of 1856	Chicago, Ill.	John Marshall High School, Chicago, [Ill.
'05	Israel Isidor Mattuck	Class of 1856	Worcester	Worcester Classical School.
'05	Leo Mayer	John Harvard	New York, N.Y.	Sachs Collegiate School, New York, [N.Y.
'07	Ward Mayhew Parker Mitchell	John Harvard	Brookline	Helicon Hall, Englewood, N.J.
'05	Royal Archibald Moore	Lady Mowlson	Cambridge	Adams Academy, Quincy.
'05	Hyman Morrison	John Harvard	Boston	Boston English High School.
'06	John Murdoch, Jr.	Price Greenleaf	Roxbury	Roxbury Latin School.
'07	Frank Conrad Nieweg	Bowditch	Oxford, Pa.	State Normal, West Chester, Pa.
'05	Wilfred Adolphe Openhym	John Harvard	New York, N.Y.	St. George's, Newport, R.I.
'05	George Whitney Outerbridge	John Harvard	Philadelphia, Pa.	North East Manual Training, Phila., [Pa.
'06	Andrew Abijah Parker	Ruluff Sterling Choate	Carrington, N.D.	Fargo College, Fargo, N.D.
'07	Ernest Edgar Pierce	Bowditch	Goffstown, N.H.	Phillips Academy, Exeter, N.H.
'05	James Arthur Reeves	Matthews	Cambridge	Melrose High School.
'06	Archibald Waldo Roberts	Price Greenleaf	Biddeford, Me.	High School, Biddeford, Me.
'05	Gustavus Hill Robinson	Class of 1802	New York, N.Y.	Mount Hermon.
'07	Will Carson Ryan	Bowditch	New York, N.Y.	Morris High School, New York, N.Y.
'05	William Joseph Scarlett	John Harvard	Columbus, O.	Ohio State University.
'07	Forrest Ritter Shanaman	Bowditch	Reading, Pa.	Boys' High School, Reading, Pa.
'05	Henry Maurice Sheffer	Price Greenleaf	Boston	Boston Latin School.
'06	Augustus Whittemore Soule	John Harvard	New York, N.Y.	St. Paul's, Concord, N.H.
'06	William Wentworth Thayer	John Harvard	Concord, N.H.	Phillips Academy, Andover.
'06	Otis Johnson Todd	Saltonstall	Blooming Valley, Pa.	A.M., Chesbrough Seminary, North [Chili, N.Y.
'05	Walworth Tyng	Bowditch	Reading	Cambridge Latin School.
'06	Ralph Irving Underhill	Bowditch	Brooklyn, N.Y.	Pratt Institute High School, Brooklyn, [N.Y.
'06	Frank Charles Wheeler	Price Greenleaf	Newport, Vt.	Somerville Latin High School.
'07	Thomas York	Bowditch	Mount Carmel, Pa.	Phillips Academy, Exeter, N.H.

sons to absent themselves from Cambridge for pleasure trips and parties. Students who maintain only a record which allows them to pass from class to class without distinction should, I believe, be held closely to their engagements; at least they can learn punctuality. What number of absences — or whether any at all, unless for protracted illness or some equally weighty reason, — should be excused is a problem difficult to solve. If some are to go unquestioned, from the "Office" point of view, a fixed number, which the student uses as he pleases, is most easily administered.

The increased number of students, to which reference has already been made, has removed from Rules 3 and 4 a certain part of what may be called the personal element; for although it is possible for the Recorder to see personally practically all those who may be obliged to go away from Cambridge, it is quite impossible for him, with all the other demands upon his time, to see at the time the notices are presented all of those who give an excuse for an absence from recitations of a day or more. Hence has grown up the practice of "signing off" (giving written notice of the beginning of an absence), and "signing on" (written notice of its end), — two operations which not infrequently take place at the same time.

In the matter of excuses for absences the standard of honor among a considerable body of our students, generous, and in other affairs high-minded, of whom the College may otherwise be proud, is deplorably low. That a student should "sign off" for a sick friend is natural and legimate; but the standard of honor of the two men is low when the invalid waits in the hall outside the Office for his friend to join him, or spends the day in town, returning just in time to meet the physician who has been sent to see him. "I was glad, of course," one student said when questioned about the "sick excuse" he had given for prolonging the Thanksgiving Recess, "that if I was going to be sick I was sick at this time," admitting when questioned further that his sickness had not confined him to the house where he was visiting or prevented him from going to the theatre that same night. This is but a single example of a state of mind far from uncommon. Many students assume that the mere presentation of a reason for an absence thereby excuses it. They quite forget that to have an absence excused the reason must satisfy a College officer. No sane man can accept as sufficient the great body of excuses handed in by students who ask to be treated as men, — weak eyes (few sufferers realize that they can carry their ears to a lecture), colds, headaches, stomach-aches, and that intestinal trouble whose most serious havoc is in the orthography rather than the bodies of its victims. The "Office" must, and does, take a student's word that he was not feeling quite well; but many students are indignant that it refuses to accept, as satisfactory, excuses which, when they are questioned on the subject, they frankly admit they know would not be accepted from them in a business office,—excuses which, furthermore, they would not present there. Over and over again to the remark, "You know that were you in business such a record of attendance would cost you your job," comes the reply, "O yes, but this is different." An administrative officer has no more difficult task than to make a student understand that there is, and should be, no difference between business in College and business in the world, and that dereliction in the one should bring as speedy a dismissal as it would in the other.

An examination of the relations of the "sign-offs" to the places in which the "signers-off" live brings results which hardly need comment. The following table, prepared by the Assistant Recorder, covers the four weeks ending Saturday, April 16. The eleven dormitories enumerated lie practically, it may be said, in one region,—that south of the College Yard. In this list are not included the excuses from students living in private houses or the smaller dormitories in this same region. Had this been done, the difference between the percentages would have been even more remarkable.

TABLE OF "SIGN OFFS."

Dormitories.	Number of occupants, undergraduate.	"Sign offs."	Per cent.
Beck	22	17	77.2
Claverly	78	35	44.8
Craigie	71	24	33.8
Drayton	18	9	50.0
Dunster	21	26	123.8
Everett	16	7	43.7
Fairfax	23	11	47.8
Hampden	46	30	65.2
Randolph	74	39	52.7
Ware	31	13	41.9
Westmorly	67	37	55.2
	467	248	53.1
Places, other than the above	1534	331	21.5
	2001	579	28.9

"During the four weeks ending Saturday, April 16, there were 579 'sign offs' for 'illness' from the 2001 students then enrolled in the College proper.

"57.1% of the 'sign offs' came from 1534 students. 42.8% of the 'sign offs' came from 467 students. That is, 42.8% of the 'sign offs' came from 23.3% of the undergraduates, and 57.1% came from 76.6% of the undergraduates."

The fundamental difficulty in dealing with this evil of "signing off" is the fact that these excuses must be passed upon in the College Office and not by a physician. I believe that the administration of this whole matter of "sick excuses" should be removed from the Office and put into the hands of the College physician. His relations would be, as they always have been, strictly confidential, like the relations of any physician to his patient. Notice of sickness would be sent to the physician, who would then take charge of the case and inform the Office for how long a time the absences of the sick student should be excused. If it is advisable that a physician other than the College Officer take charge of a case, a satisfactory adjustment can be made: few who have not examined sick excuses can realize how easily a list of physicians whose certificates would be trustworthy could be prepared from data already in possession of the College.

The admirable practice of the Dean of the Scientific School of calling upon every student in the School who gives notice of illness, has produced most excellent results, and can be carried out where the number of students is not large. The number upon whom he has to call, he says, has greatly decreased since the practice was inaugurated, but in so large a body as the College, there must be delegated for the duty someone who can give practically all of his time to it. It has been said that some students would probably look upon such a practice with suspicion, but such suspicion could not exist long, for the groundlessness of it would soon be clear. Certainly a student who is genuinely ill need have no fear, and as for those who absent themselves on account of little ills which young men in business disregard, the sooner this habit is broken up, the quicker will the whole moral tone of College life be improved.

An examination of the records of the Administrative Board since its establishment points to but one conclusion, — that its policy has been to interpret rules liberally, to do away with petty restrictions, and to place responsibility on students. Practically it may be said that the College has but three rules, — that a student shall be a gentleman, keep his engagements, and present satisfactory evidence of work. The student who cannot abide by these should seek membership in some other community.

B. S. HURLBUT, *Dean.*

THE LAWRENCE SCIENTIFIC SCHOOL.

To the President of the University:—

Sir,—As Dean of the Lawrence Scientific School I submit to you the following report for the academic year 1903–04.

The number of students registered in the School during this and the preceding academic year, as well as their distribution by classes and four-year courses of study, is set forth in the following tables:—

REGISTRATION BY CLASSES.

Class.	1902–03.	1903–04.
Fourth-Year	94	85
Third-Year	83	80
Second-Year	151	149
First-Year	136	114
Specials	120	120
Totals	584	548

SPECIAL STUDENTS.

Number of years in attendance.	1902–03.	1903–04.
One	91	70
Two	24	41
Three	3	9
Four	2	..
Totals	120	120

REGISTRATION FOR ADMISSION EXAMINATIONS.

Year.	Preliminary.	Final.	Total.
1903	96	176	272
1904	111	172	283

DISTRIBUTION OF STUDENTS IN FOUR-YEAR PROGRAMMES.

Programme.	1902–03.	1903–04.
Civil Engineering	72	72
Mechanical Engineering	70	56
Electrical Engineering	61	74
Mining and Metallurgy	75	68
Architecture	35	40
Landscape Architecture	11	16
Forestry	..	7
Chemistry	32	23
Geology	3	4
Biology	16	14
Anatomy and Physiology	38	35
Teachers of Science	30	13
General Science	141	126
Totals	584	548

As will be noted the decrease in the number of students enrolled in the several Departments, which began in 1903–04, has been continued in a less measure in the present academic year. The loss in 1903–04 was thirty-six; the further loss of the present year is eighteen. Inasmuch as the requirements for admission to the School are as great as those demanded for admission to the College (where the degree of Bachelor of Arts can be obtained in a year less of time than is required to attain the degree of Bachelor of Science), and as the graduates of either school are admitted on equal terms to the Medical or Law School, it is to be expected that students who are seeking a general training will generally enter the College.

The number of students enrolled in those programmes which lead directly to professional employment, as will be seen from the tables, has been but little affected by the increase in the requirements for admission. The total number in these programmes in 1902–03 was 443, while in 1903–04 it was 422, and this present year 434. It thus appears that the greater demands of the entrance examinations are not likely to prove a permanent obstacle to the further growth of the School.

It will be observed that the number of persons registered as Special Students has varied but little in recent years; there has been, however, a considerable change in the quality of these students. In larger measure than in the last decade the resort to the group is from mature men who desire to avail themselves of instruction in some special field, but who have no intention of proceeding to the degree. The remainder of this group, much more than half of the total number, consists of young men who mostly come from high schools which do not provide all the instruction necessary for our entrance examinations. These students are required to pass one-half of the admission subjects and to obtain from the master of the school whence they come a recommendation that they be admitted, with a statement that, in the opinion of the master, they are fitted to do the work they wish to do. This method of admission to the group of Special Students has proved, on the whole, satisfactory. By far the larger number of those entering by this method are successful in their studies; many of them attain regular standing in the second year of the professional programmes at the end of their first year of residence. It will be seen that this method of admission combines that of the certificate of the secondary school with that of our entrance examinations. In the present condition of the experiment the results may fairly be deemed promising, provided it is somewhat rigorously administered. It has a great advantage in that it opens the way for many able young men who might otherwise be barred from the University.

It is evident that the term "special" student is ill applied when it is used to designate the very diverse groups of students now included in that category. The term should be limited to those persons who are pursuing particular studies with no intention of seeking the degree; while some other designation should be found for the group wherein are placed those students who have only partially satisfied the requirements for admission to regular standing.

The discipline of the School continues in a satisfactory state: during the year the probations of sixteen students were closed because of inadequate performance of duty; one hundred and thirty-one were, for this reason, placed on probation; one was suspended for handing in written work which was not altogether his own. The once considerable evil of "signing off" for trifling indispositions has practically disappeared, those now claiming exemption from duty on account of illness being, on the average, fewer than two per cent. of the number registered. During the year there were two deaths; but the cases of serious illness were few.

N. S. SHALER, *Dean.*

ATHLETIC SPORTS.

To the President of the University: —

Sir, — I have the honor of submitting to you a report for the academic year 1903–04 on the work of the Committee on the Regulation of Athletic Sports.

Having entire supervision and control of all athletic exercises within and without the precincts of the University, the Committee exercises a general supervision over the grounds and buildings devoted by the University to athletic sports and exercises, with the exception of the Hemenway Gymnasium. Of the grounds, Jarvis Field is at present devoted entirely to tennis and contains six double and twenty single courts. These in the season are in so great demand that additional courts have been laid out from time to time on Holmes Field adjoining, which at present contains one double and twelve single courts. Of these, two courts have been reserved for the use of members of the Faculty and their families after one p. m. Additional courts will undoubtedly be needed the coming season, and a graduate of the University has offered to make good the expense of laying out such courts. Holmes Field has also been used sporadically for other sports, including hockey, cricket, and lacrosse; but owing to the inconvenience to the occupants of the adjoining University buildings and the danger of injuring the equipment, the use of the field for all sports except tennis and hockey will be discontinued.

Norton's Field has been used occasionally for base-ball and cricket; and although the area of the field has been diminished by a division of the land, there is still a limited opportunity there for informal practice.

The development of Soldier's Field has steadily progressed, and Professor Hollis has generously consented to continue his general supervision of the improvements. These improvements include the gradual reclaiming of those portions of the field which are not yet filled, graded, and turfed. A space about 600 feet square within the northwestern bend will ultimately be assigned to cricket. It is hoped that the peat which has been found in this portion of the field may be utilized as fuel, so that the grading of that part may thus pay for itself.

A permanent and fireproof grand-stand of concrete or brick and steel would be a desirable and sightly addition to the useful embellishments of the field. The plan and proportions of a Greek theatre would not be ill-adapted to this purpose.

During the current year the readjustment of the southern boundary line of the field has been arranged between the Corporation and the Board of Park Commissioners for the City of Boston. By an exchange of land the line is now straight, and the City is to open a street along this line. As the Committee has acquired possession of the only remaining piece of property on the north of this street which did not belong to Soldier's Field, the field itself will now be entirely bounded by streets, — a desirable consummation. The fence surrounding the field will be completed on the south line as soon as the grade of the street is established. A temporary board fence will meanwhile be erected.

The construction of the Stadium has been provisionally finished. At present the entire seating arrangement which was originally planned has been completed, and the first grading of the ground beneath the seats. The addition, at the north ends, of two towers, which are also to contain waiting-rooms, provides ample means of descent from the seats by a series of wide staircases. Two sets of similar staircases have been added under each side of the building. The surface of the Stadium is to be treated in a manner which will obliterate the marks of the moulding-boards, so that the whole superficies will have a finished appearance. Owing to unexpected additional expenses entailed by changes in the price of materials and in the amount of material necessary, and by the various necessary and desirable alterations in the building plans, the cost of the structure has been greater than was at first anticipated. For this reason it has seemed to the Committee inexpedient, for the present, to erect the additional story which was to form the crown of the edifice, containing a balcony closed on the outside, with the exception of occasional windows, and open on the inside in the form of a loggia. However, the magnificent sweep of the open promenade which now may be enjoyed from the top will meantime afford some compensation. A plaster model of the Stadium in its final form has been constructed by the direction of the Committee, 6 feet and 4 inches by 4 feet 10 inches in size, and forms a part of the Harvard exhibit at St. Louis. The *Harvard Engineering Journal* for June, 1904, is devoted to an official account, profusely illustrated from photographs and plans, of the origin, materials, design and methods of construction of the Stadium, together with a description of ancient stadia and circuses. The cost of the Stadium to date is approximately two hundred and fifty thousand dollars, of which one hundred thousand dollars was contributed by the Class of 1879, while a part of the remainder was provided from the accumulated surplus funds of the Committee. The debt which now remains is about seventy thousand dollars. This debt the Committee hopes to cancel within the next few years.

The elaborate preparations now made for the accommodation of the public have grown out of a desire to secure proper accommodations for those interested in the contestants, including the students and their friends. This has gradually necessitated the building of convenient seats for the spectators, and in order to exclude any undesirable fringe of random observers, grounds have been enclosed, and an admission fee has been charged. The admission fee is largely in the nature of a contribution on the part of students for the support of these contests, and it is not utilized as a means of revenue for private gain. The proceeds of such meetings are employed for the care of grounds and buildings, and for the expenses of the games, which in fairness should not be borne by the players themselves.

The large income which these gate receipts now yield undoubtedly tends to encourage some wastefulness, and aids in the expansion of informal sport into a formal business. This income has gradually led to the development of an extensive equipment which has induced the impression that the spectacular side is one which is persistently cultivated by athletic managements. This is, however, far from being the case. The tendency in intercollegiate circles at present, and for some years past, has been to limit these contests, so far as possible, to meetings between college teams to be held on college grounds. It may have been noticed that the Harvard athletic contests are not generally advertised officially, with the exception, perhaps, that posters are placed upon street cars. These posters are largely for the purpose of furnishing directions to those who are planning to attend games. The athletic authorities in Cambridge have thus limited, so far as feasible, the public announcements of athletic proceedings. Criticisms on the construction of so large and expensive a building as the Stadium, for instance, might be justified if its main purpose were to encourage merely the spectacular side of intercollegiate contests, even if its erection has been rendered possible by a generous gift from graduates of the College. It may be said, however, that, as it seems difficult to check the recourse to such contests, on account of the number of undergraduates, graduates, and their friends, who desire to attend, it seemed proper to erect a structure that would not only be dignified and impressive in appearance, but might also secure the safety of a large audience whose lives have really been in some peril when the wooden stands have been crowded at the great games, and when such enclosures have been formed that egress has been a matter of slow and inconvenient motion. A similar peril has attended the Class-Day exercises about the statue of John Harvard. Considerations such as these have actuated those in authority, rather than the desire to cater to a public thirst for gladiatorial contests after the pattern of those the exigencies of which required the erection of the Flavian amphitheatre.

The Stadium has already been used for foot-ball, for track athletics, for cricket, and for lacrosse. The Class-Day exercises which were held in it proved a successful experiment. The great spaces beneath the seats of the Stadium may ultimately be utilized for many athletic interests. There is abundant room for quarters for the different teams, for rifle or pistol ranges, for offices, and for miscellaneous storage purposes. Space, for instance, could be found for the storage of any number of library books not needed or in transit. The construction of a large swimming pool, recommended as long ago as 1892 in a report of a committee of the Overseers, would be an advantageous addition to the accommodations of the field. If locker space could be provided about the Stadium, the present locker building might possibly be employed for such a pool.

Up to the present year the Harvard Gun Club has used Soldier's Field for practice in shooting clay pigeons, and has erected there a club house, with the permission of the Committee, which also contributes towards the expense. Apparently no one has been disturbed by this practice and no injuries have been reported. The practice, however, has been found to be a violation of the ordinances of the City of Boston, and the Gun Club has been required to leave Soldier's Field and to seek other quarters.

The facilities for rowing afforded by the University Boat House and the Weld Boat House have been utilized as usual, and the equipment has been efficiently maintained.

The principal additional minor improvements and repairs of the year are as follows: — Painting the fence around Soldier's Field, building a new running track in the Stadium, laying out a new diamond, and filling a considerable area of the marsh in the outfield with cinders; retubing one of the boilers in the locker building; putting in a new tank and heater in the Weld Boat Club, which will increase the storage capacity of hot water three-fold, and increasing the radiating pipe surface in the dressing room five times; and replacing the slings and blocks for hoisting the launch on to the car for the New London trip (the old ones having been burned in a fire at Central Wharf last winter), an expense of six or seven hundred dollars. For the benefit of the members of the crews practising at New London during the June examination period, a special examination booth was erected by the Committee last spring in order to insure greater quiet and more ample accommodations. This booth was in the form of a sectional cottage which can be folded up and packed away.

The Committee is also expected to have supervision over the times and places of all athletic contests, the precedents regarding which have been substantially continued during the past season. In the so-called major sports, namely, base-ball, foot-ball, rowing, and track athletics, there seems to be little tendency to extend the number of contests or to depart from the principle of college games on college grounds alone. The so-called minor sports under the supervision of the Committee comprise basket-ball, cricket, fencing, hockey, and lacrosse, as well as golf, the Gun Club, gymnastics, hand-ball, the Rifle and Pistol Club, swimming, and tennis. In a number of these the tendency has been to enlarge the schedules and to imitate the more elaborate methods of preparation for the major sports in the way of establishing training-tables and securing expert coaching. In the case of some of these sports the schedules include a number of non-collegiate organizations, and in the case of hockey the principal contests have taken place in New York City, and so may not be conveniently witnessed by students of any of the institutions concerned except Columbia. The Committee has had grave doubts about the desirability of permitting contests of such a nature, held in a large and distant city, in a rink not under the direct control of college authorities. Serious doubts have also been expressed regarding the propriety of the extension of those minor sports occurring during the winter season, whereby the active athletic season is likely to become continuous from the opening of the fall term until after Commencement. The Committee, however, desires in every way to encourage the winter sports and all the minor sports, as opportunities for exercise; and it is right to add that in many cases, although not in all cases, those taking part in the latter are men not engaged in the major sports, so that the apparent distractions of this continuity of athletic contests do not affect the same individuals.

The Committee is also expected to exercise some supervision over the physical condition of those engaged in athletic sports. Unfortunate episodes have happened in connection with the training of the foot-ball team and of the Freshman crew during the past season, and while it is fair to call attention to the general good condition of the great majority of our athletes and to the lack of any serious breakdown on the part of individuals, with only one or two exceptions, the Committee has nevertheless taken steps to have a plan submitted for the more thorough and complete supervision of the physical condition of athletes in all branches. A report on this subject is to be made at the beginning of the fall season.

Friendly athletic relations with other institutions have been furthered by the continuance of the informal conferences between members of the bodies governing athletics in certain institutions, and by many private meetings and much private correspondence between these authorities. A number of differences have thus been satisfactorily adjusted without inviting the attention of the general public. The question of a closer athletic organization between different institutions has been much debated, but no entirely satisfactory plan of organization has as yet been presented. The question of summer base-ball is one which would seem to demand some joint action, and continues to be the most ominous cloud on the horizon.

The period of the two-year agreement with Yale has nearly expired, and although its terms do not yet affect all students of both Universities, the working of the agreement has been smooth. Only one minor case for submission to the committee of arbitration has occurred. Any minor changes or modifications in the agreement may readily be made at the time set for renewal in January, 1905.

During the summer of 1904 a collection and classification was made of the records of the Committee and of other official data referring in general to the history of athletics in the University. This material includes the minutes and correspondence of the Committee since its organization in 1882, and its reorganization in 1888; the official reports upon athletics made from time to time to the authorities of the University; references to athletics in the reports of the President of the University; and articles on athletics in the *Harvard Graduates' Magazine*. These materials are to be filed and classified by year and subject. A complete record of all the athletic contests in which Harvard has taken part, and of the men who have participated in such contests, is soon to be concluded. These various collections will form the official sources for information regarding Harvard athletics, or for a history of athletic sports at Harvard.

A permanent room has been secured and suitably furnished in the Harvard Union for meetings of the Committee and for the accommodation of its appurtenances.

Slight modifications of the Regulations of the Committee have been made during the year, and some additional legislation has been accomplished. The more important items among the proceedings of the Committee are as follows: —

The Committee having received late in the previous year a communication from the Faculty of Arts and Sciences to the effect that the Faculty had voted to refer the question of discontinuing intercollegiate foot-ball to the Committee for its consideration and advice, returned the following answer: —

> "Having examined the question submitted, the Committee would respectfully reply that in its opinion the present situation in intercollegiate athletics does not appear to render advisable the discontinuance of intercollegiate foot-ball at Harvard.
>
> "The steps taken in the investigation were as follows: The question was discussed by the general committee, and also a conference was arranged between prominent foot-ball coaches and former members of the foot-ball team, and the Committee itself. A full and frank discussion followed, in which the objections to the game were stated which had been made at the meeting of the Faculty, and information was requested upon the various points raised. The consensus of opinion was to the effect that the game had improved in many of its features in recent years, that the relation between opposing teams, particularly between Harvard and Yale, were of a friendly nature; and that an effort should be made to obviate certain apparently objectionable features.
>
> "The sentiments expressed in the Faculty were also communicated to the Intercollegiate Rules Committee which forms the playing rules, and similar expressions of opinion reached that body from other sources. In obedience to this general demand for some change in the playing rules, the Rules Committee formulated and published after Commencement a number of alterations which are to be initiated during the present season, and which it is believed will improve the game in the directions desired.
>
> "The Committee ventures also to express the opinion that the game of foot-ball is only one of many distractions in college life, and that there is no evidence that its abolition would necessarily turn the attention of students to more serious pursuits."

To check the tendency to lengthen winter schedules it was decided not to permit the basket-ball and hockey teams to play more than three matches at such a distance that the team could not return to Cambridge by the evening of the day on which the game was played.

The proposition to create the position of a paid foot-ball coach, to have general supervision of the game of foot-ball at Harvard as a college pastime, without reference to intercollegiate contests, was laid on the table.

To prevent speculation, the privilege of applying for tickets to the large games, formerly enjoyed by holders of season tickets, was abolished.

In order to give the Committee a better control in cases involving possible violations of the eligibility rules, a rule was passed that no student of Harvard University who has played on any semi-professional nine, or on any so-called summer base-ball nine, shall represent Harvard University in any public athletic contest until he has received special permission from the Committee.

The rule permitting a student to participate for not more than four years in intercollegiate contests was modified so as to affect only the four major sports. The purpose of this amendment was to avoid needless and perplexing complications in applying the rule which formerly covered a number of comparatively unimportant branches.

An important modification of the penalty of complete debarment from participation in intercollegiate contests on account of any violation, however slight or remote, of the eligibility rules, was prepared at an intercollegiate conference, and generally accepted. This modification limits the term of disqualification, and will be defined and promulgated by the Committee during the coming year.

At the close of the academic year the Committee adopted and published a definite financial policy for the immediate future. The announcement also included a revision of the arrangements for awards of prizes and insignia. The main features of this policy, which include certain principles already established, are these: —

1. The four major sports, foot-ball, base-ball, rowing, and track athletics, shall be supported from the general gate receipt fund in those branches, and, in addition, it shall be necessary for the track team and crew managements to raise $2,500 and $3,000 respectively in subscriptions.

2. All minor sports shall be self-supporting and receive no appropriation from the Athletic Committee, except for permanent equipment.

3. In case there be a deficit in any one branch of athletics, this deficit shall be made up before intercollegiate contests in that branch are permitted to be continued.

4. The Freshman teams shall be considered on the same basis as the minor sports.

The explanatory statement authorized by the Committee which accompanied the announcement of the above plan stated that for some time it had seemed necessary to adopt a permanent policy regarding the question of prizes and gifts to members of athletic teams, with respect to the collection of subscriptions, and with regard to the financial help which should properly be given to the different branches of athletics. The natural tendency on the part of undergraduate managers, where there seems to be a large income from athletics, is to increase steadily the expenditures, to enlarge the privileges given to members of teams, and to drift into a system of awards and rewards which tends sometimes to accentuate unduly the material gains which may accrue from participation in athletics. The Committee regards the income from athletics as a fund which should be considered in the nature of a trust to be administered in the most economical fashion consistent with the adequate equipment and conduct of sports, while the surplus should be made as large as possible, in order that it may be utilized for the benefit of the athletic plant, which is designed for the use of the University as a whole.

In a report of a Committee of the Board of Overseers (No. LXIII, April 14, 1897), it was suggested that any surplus in the gate receipts derived from athletic contests be devoted to permanent improvements in the College athletic grounds or buildings. This suggestion embodies the settled policy of the Committee, — a policy which is authorized, and indeed seems almost imperative, by reason of the articles of agreement entered into by the athletic associations of Harvard University in 1889, establishing a graduate treasurer. The fourth article of this agreement prescribes that any surplus over the usual expenses shall be spent in athletics.

The Committee also regards the tendency to provide free instruction in various branches of athletics as an extension, perhaps not illegitimate, of its functions, and of the application of the funds, but an extension which must at present be curtailed on account of more pressing demands upon the funds in other perfectly legitimate directions.

Among these demands, the most pressing at present is the debt upon the Stadium. The payment of this debt has been guaranteed by friends of the University, but the Committee is naturally anxious to relieve these friends of this obligation at the earliest possible moment. Other important and extensive improvements are also planned in connection with Soldier's Field. The Committee therefore believes that it is necessary to accentuate this pressing need for economy of expenditure at this time in all directions, and trusts that the student members of the University will perceive the desirability of continuing to give active financial assistance to their own teams, at least as liberally as in the past. The amounts contributed by students for the support of athletics have been diminishing rather than increasing, in spite of the steady increase in the number of those attending the University.

The Committee hopes that ultimately the charge for admission to the games for students may be made even lower than it is at present. It may not be generally understood that the average cost of admission to a game for a holder of an H. A. A. ticket is about twelve cents. A more remote hope of the Committee is to accumulate an endowment sufficient to render subscriptions, except for special occasions, no longer necessary.

H. S. WHITE, *Chairman.*

THE GRADUATE SCHOOL.

To the President of the University: —

Sir, — As Dean of the Graduate School I have the honor to submit my report upon the School for the academic year 1903–04.

The members of the Administrative Board were Professors C. L. Jackson, Davis, G. F. Moore, von Jagemann, Kittredge, Münsterberg, and Bôcher, and the writer. The only member who had not been in service the previous year was Professor Moore. The Board met ten times in the course of the year.

This report will consider, first, the members of the School, with some special account of the amount, variety, and grade of the work done by them; secondly, the degrees for which recommendations were made at the close of the year and the holders of these degrees; thirdly, fellowships and scholarships; and, fourthly, miscellaneous topics.

STUDENTS.

The number of students registered in the School for 1903–04 was four hundred and twenty-seven, one hundred and two more than in the preceding year. With these might be included as virtual Graduate Students twenty-six Seniors, who, though registered in Harvard College, were pursuing studies that had been approved for the degree of Master of Arts.

Table I. — Number and Classification of Students.

	1901–02.		1902–03.		1903–04.	
I. Resident Students doing full work in the School for the whole academic year . . .	218		216		289	
Resident Students not doing full work or not working for the whole year as Resident Students	86		94		123	
	—	304	—	310	—	412
Non-Resident Students holding fellowships .	11		15		14	
Non-Resident Students not holding fellowships	0		0		1	
	—	11	—	15	—	15

II. Students whose studies lay chiefly in [*]			
i. Semitic Languages and History	1	1	2
ii. Ancient Languages (Classics and Sanskrit)	41	37	37
iii. Modern Languages (including Comparative Literature)	70	74	111
iv. History and Political Science	52	52	78
v. Philosophy (including Education)	41	50	64
vi. Fine Arts (including Architecture)	6	11	15
vii. Music	1	0	5
viii. Mathematics	17	22	21
ix. Engineering	6	5	9
x. Physics	13	12	14
xi. Chemistry	21	24	25
xii. Biology	23	19	19
xiii. Geology	13	12	20
xiv. Anthropology	2	2	0
Unclassed Students	8	4	7
	— 315	— 325	— 427

III. First-year Students	157	175	259
Second-year Students	83	83	89
Third-year Students	36	36	51
Fourth-year Students	27	13	18
Students in a fifth or later year	12	18	10
	— 315	— 325	— 427

IV. A.B.'s and S.B.'s of Harvard University and of no other institution	94	96	149
A.B.'s and S.B.'s (and holders of similar degrees) of other institutions and also of Harvard University	43	26	25
Students not holding the Harvard degree of A.B. or S.B.	178	203	253
	— 315	— 325	— 427

Students holding the Harvard degree of A.M., S.M., Ph.D., or S.D.	100	100	104
Students holding the Harvard degree of A.B. or S.B., but not of A.M., S.M., Ph.D., or S.D.	90	72	125
Students holding no Harvard degree in Arts, Philosophy, or Science	125	153	198
	— 315	— 325	— 427

Admission to the Graduate School is ordinarily granted to holders of the Bachelor's degree of colleges of good standing, and to a few other persons of maturity. By a recent enactment of the Faculty, undergraduates of Harvard College who have nearly or quite completed the requirement for the degree of Bachelor of Arts may be admitted to the School, but only as candidates for the degree of

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[*] For detailed statistics as to the number of Graduate Students enrolled in the various courses of instruction offered by the Faculty of Arts and Sciences, see the Report of the Dean, pp. 58–82.

Master of Arts. The colleges and universities that were represented in the School in 1903–04 are named in Tables V and IX.

Table I exhibits the usual classification of the students of the School, and is given for convenience of comparison for the three successive years, 1901–02, 1902–03, 1903–04. My remarks on this table and on the following tables, which supplement it, have reference, first, to the members of the School in general and to the amount of work done by them; secondly, to their fields of study and to the distribution of their work among the courses of instruction offered by the Faculty; thirdly, to their periods of residence; and, fourthly, to the extent to which the School draws its members from institutions other than Harvard University.

Of the Resident Students, three hundred and sixty-eight were in attendance throughout the whole year. Of this number, two hundred and eighty-nine were doing either what is technically described as a full year of work, four courses or their equivalent, or a larger amount of work. Seventy-nine of those in residence throughout the year were doing partial work, that is, less than four courses. Of the remaining forty-four Resident Students, twenty-three entered the School after November 1st, and twenty withdrew before the end of the year.

The School lost one student by death: Thorvaldur Thorvaldson, Jr., student of physics and mathematics, died on February 9, 1904. He was a graduate in Arts of the University of Manitoba, in Science of Harvard University, a man of high character, great ability, and of singular promise, who looked forward to a life of usefulness in Iceland, his native country.

In Table II are given the statistics for the last eighteen years of Resident Students doing full work or partial work, and of Non-Resident Students, as well as of the whole number of students in the School for this period. It is a wholesome sign that the proportion of men is increasing, though only gradually, who are able to devote all their time to their university work. Of the whole number who were in residence throughout the year, nearly four-fifths were doing full work.

It is impossible to measure with accuracy the amount of work which a man will do who devotes his entire time to his studies — the full-work man. For purposes of comparison, measurements in terms of numbers of courses are misleading and inadequate: students differ in intellectual capacity; courses differ greatly in difficulty and in their demands on the student's time, and every serious student does a large amount of work that is not covered by

TABLE II. — RESIDENT STUDENTS DOING FULL WORK, AND NON-RESIDENT STUDENTS: 1886–1904.

	1886–87.	1887–88.	1888–89.	1889–90.	1890–91.	1891–92.	1892–93.	1893–94.	1894–95.	1895–96.	1896–97.	1897–98.	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.	1903–04.
Resident Students doing full work in the School for the whole academic year	38	48	50	62	62	108	127	162	161	175	194	171	218	227	226	218	216	289
Resident Students not doing full work or not working for the whole year as Resident Students . .	26	36	39	34	55	79	73	86	94	105	96	107	103	99	113	86	94	123
Whole number of Resident Students	64	84	89	96	117	187	200	248	255	280	290	278	321	326	339	304	310	412
Non-Resident Students holding fellowships . . .	10	10	9	11	11	9	9	10	12	13	14	15	12	13	14	11	15	14
Non-Resident Students not holding fellowships . .	4	3	1	4	4	4	7	1	5	6	2	. .	3	2	. .	. .	. .	1
Whole number of Non-Resident Students	14	13	10	15	15	13	16	11	17	19	16	15	15	15	14	11	15	15
Whole number of students	78	97	99	111	132	200	216	259	272	299	306	293	336	341	353	315	325	427
Percentage of Resident Students doing full work for whole academic year	59	57	56	65	53	58	64	65	63	63	67	62	68	70	67	72	70	70

the statistics of his courses. It is, however, a matter of interest that of the ninety-three members of the Graduate School who obtained the degree of Master of Arts in 1904 on work done wholly in 1903–04, forty-six were enrolled in four courses only; twenty-one in four and a half; twenty-two in five; two in five and a half, and two again in six courses. The remaining twenty did less than four courses in 1903–04, having work to their credit which they had completed in a previous year.

Of the group of Non-Resident Students in 1903–04, one only was not a travelling fellow. The number of Non-Resident Students who were not travelling fellows has never in the history of the School exceeded seven.

The second division of Table I indicates in general the fields of learning and science in which the work of the students lay. Although nearly every student concentrates his work, especially if he is a candidate for a degree, in some specialty, either of field or of topic, and is therefore properly assigned to some one Department or Division, his work in many cases will fall in more than one of these subdivisions. Hence the figures given in this table are regularly less than the number of men who actually take work in the Departments or Divisions in the list. Exact information on the choice of studies of Graduate Students is given in the Report of the Dean of the Faculty of Arts and Sciences (see above, pp. 53–82), and also in Table III below.

In 1903–04 the Divisions of the Faculty, arranged according to the number of students who specialized under each, were: —

Modern Languages,
History and Political Science,
Philosophy (including Education),
Ancient Languages,
Chemistry,
Mathematics,
Geology,
Biology,
Fine Arts (including Architecture),
Physics,
Engineering,
Music,
Semitic.

If we gather the Divisions into three great groups — first, of the languages, ancient and modern; second, of the historical and philosophical sciences; and third, of the mathematical, physical, and so-called natural sciences — we may note that thirty-six per cent. of the students belonged to the first group, thirty-nine per cent. to the second group, and twenty-five per cent. to the third group. In other words, three-quarters of the students of the Graduate School in this University in 1903–04 were pursuing the study of languages and literature, together with history, economics, philosophy, and the fine arts, while one-quarter were students of mathematics and the physical and biological sciences. In the previous year the proportions were two-thirds and one-third respectively, which was substantially the proportion of previous years. The change in 1903–04 is significant.

The proportion of students who receive higher degrees at the close of the year is not the same for all Divisions, and it varies also within the several Divisions from year to year. In 1903–04, in the Divisions in which five or more students took higher degrees, we may note that in Ancient Languages and in History and Political Science nearly two-thirds of the students received such degrees; in Biology more than one-half, in Modern Languages, in Mathematics, and in Physics a little less than one-half, while in Philosophy and in Geology the proportion was a trifle more than one-third. (See Table XIII.)

In Table III — which is compiled from the lists furnished by the Dean of the Faculty (see pp. 53–82) — an attempt is made to show for the several Departments and fields of learning, first, the number of choices of courses (and half-courses) made by Graduate Students, from those offered by the Faculty in 1903–04, and, secondly, the grade of the courses chosen, the courses being placed according to the system now in vogue in three groups: I, Courses primarily for Undergraduates; II, Courses for Undergraduates and Graduates; and, III, Courses primarily for Graduates.

This table affords information on two subjects in particular: first, on the relative number of elections of studies in the Departments and Divisions of the Faculty of Arts and Sciences, and, secondly, on the relative amount of elementary and advanced work done by members of the Graduate School.

The totals of choices in terms of courses, as given in the table, will show the relative number of elections in the several Departments or minor fields. If we examine this table along with Table I — in which the number of students who specialize under the several Departments is given — it becomes apparent that many of the men who specialize in one Division do considerable work outside the Division. The totals of choices for the several Divisions, where there were more than ten choices, are: —

Modern Languages, 358 [4],
History and Political Science, 250½ [4],
Philosophy (including Education), 174½ [9],
Ancient Languages, 112 [2½],
Mathematics, 68,
Engineering, 58,
Chemistry, 57 [28],
Geology, 54½ [9½],
Fine Arts, 43½ [2],
Biology, 44 [27],
Physics, 35½ [8]

TABLE III. — NUMBER OF ELECTIONS OF COURSES (AND HALF-COURSES) BY GRADUATE STUDENTS: 1903–04.

[Half-courses are indicated by *italics*. Figures within square brackets are explained below.]

	Semitic.	Ancient Languages.			Modern Languages.								Hist. & Pol. Sci.	
		Indic Philol.	Classics.		Comp. Philol.	English	Germ.	French.	Italian.	Span.	Rom. Philol.	Comp. Liter.	Hist. & Gov't.	Econ.
			Greek.	Latin.										
I. For Undergraduates...........	..	..	*5*	*7*	..	3	4, *1*	*2*	*2*	..	..	..	..	1
II. “ “ and Graduates.	4, *2*	..	18, *6*	19, *15*	..	84, *116*	9, *8*	14, *10*	11	2	..	16	74, *76*	60, *64*
			Class. Philol.											
III. “ Graduates.	3	1, *6*	34, *41*		10, *4*	25, *59*	6, *51*	5, *6*	6	13	15	*3*	19, *8*	17, *11*
	..	..	[*2½]		..	[*1½]	..	..	..	..	[*2½]	..	[1]	[*3]
Totals (in courses).	8	4	108		12	199½	49	29	19	15	15	17½	135	115½
Percentage of choices in III.......	37½	100	50		100	27	60	28	31	87	100	9	17	19
“ “ “ II.......	62½	..	44		..	71	29	68	58	13	..	91	83	80
“ “ “ I.......	..	..	6		..	2	1	4	1	..	..	..	..	1

	Philosophy.		Fine Arts, etc.		Math. & Astron.	Engi-neering.	Physics	Chemis-try.	Biology.		Geology.			TOTAL.
	·	Educa-tion.	Fine Arts.	Archi-tecture.					Bot.	Zoöl.	Geol.& Geog.	Miner. &Pet.	Mini'g	
I. For Undergraduates...........	5	..	4	23, *1*	4, *3*	16, *5*	6, *1*	18, *3*	*5*	*2*	*9*	2	*4*	62, *45*
II. “ “ and Graduates.	35, *27*	10, *22*	4		37, *13*	23, *31*	10, *16*	5, *10*	4, *4*	7, *23*	8, *7*	6	4, *19*	498, *477*
III. “ Graduates.	71	29	4	4	11, *16*	1	11	28, *9*	6	10	12	1	2	344, *217*
	[*4, 5]	..	..	[1]	..	..	[8]	[*1,27]	[10]	[17]	[5]	..	[4½]	
Totals (in courses).	124½	50	12	27½	68	58	35½	57	14½	29½	28	9	17½	1273[96]
Percentage of choices in III.......	57	58	33⅓	14	29	2	31	57	41	34	43	11	11	36
“ “ “ II.......	39	42	33⅓	86	64	66	51	18	41	63	41	67	78	57½
“ “ “ I.......	4	..	33⅓		7	32	18	25	17	8	16	22	11	6½

NOTE. — To the figures in the Table should be added: Celtic, *2* (in Group III); Slavic, 1 (II); History of Religion, 2, *2* (II); Landscape Architecture, 3 (II), 1, [1] (III); Forestry, *5* (I-II); Music, 2 (II), [*2] (III); Anthropology, 3 (II). — Figures within square brackets indicate additional work credited to students, done either in connection with courses, or (marked by an *) independently of courses, both kinds being expressed in terms of courses; these figures are not included in the totals, either of this Table or of the list on page 133.

Certain courses in Group III (primarily for Graduates) are sometimes taken by Graduate Students to count for more than a single course (viz., a course and a half, two, three, or four courses), where a proportionately larger amount of time is given to them. In 1903–04 forty-six men took such work, which foots up to the equivalent of eighty-one and one-half courses; each one of fifteen of these men did all his work in connection with but one course, which thus counted for four courses. Eight other men — holders of scholarships, or candidates for a Doctor's degree — did work which was supervised by their respective Departments, though not recorded as done in connection with any course in particular; this amounted, technically speaking, to fourteen and one-half courses. In judging relatively the total amount of work done in the several Departments or in the several groups — as contrasted with the number of elections of courses — the figures for both these classes (indicated in the table and in the list above by square brackets, but not included in the totals) should be included. If this total of 96 be added to the 1273 of Table III the grand total becomes 1369; this would change the percentage for Group I to 6 (from 6½), for Group II to 54 (from 57½), and for Group III to 40 (from 36). The relatively large number of men who take this additional work in the scientific Departments, especially Chemistry and Biology, is noteworthy: it means that men in these fields find it profitable to take fewer courses but to do more in each than men in other Departments.

There is a striking difference between the several Divisions and Departments in the proportion of work done by their Graduate Students in the three groups of courses which are classified as elementary (primarily for Undergraduates), somewhat advanced (for Undergraduates or Graduates), and most advanced (for Graduates). On the assumption that these classifications are accurate and have been consistently made — a rather bold assumption, to be sure — this difference means that in range and quality of attainment the Graduate Students differ greatly in the several Departments. Where the percentage of students who select courses from the highest group is large, we may safely assume that the Graduate Students of that Department as a whole are better prepared for advanced and special work than where the percentage is small. Where, however, a large proportion of the choices is made in the elementary or in the intermediate group, the students as a class have come to the University less well prepared for higher work. Of course, every Department will show many individual exceptions.

This table should be suggestive to officers of government, as well as to officers of instruction and administration, especially in the light of similar statistics for former years. It shows the former in a general way where the instruction, as made use of by Graduate Students, is obviously strong and popular (if we may judge from the resort to it), and where therefore it needs to be maintained on its present high standard, or developed; where also it appears to need support and enlargement. The Faculty may among other things get some hints from it as to the proper distribution of financial aid for students among the Departments, having in mind not only the proportionate number but also the proportion of best-trained students in each Department.

The next division of Table I, with which Table IV should be compared, gives information about the period of residence of men in the School. About three-fifths of the students were in the School for their first year, and of these first-year men a little more than one-third secured a Master's degree (ninety-one Masters of Arts and two Masters of Science out of two hundred and fifty-nine). About one-fifth were in their second year, and the remaining one-fifth were in their third, or a later year of residence. The proportion of men in the first year was larger than ever before. Statistics continue to show that the majority of men who come to the Graduate School intend to remain in it but a single year, and that not one-half of them have a degree in view. This condition, which is peculiar to the Graduate School, sets an unusual problem before those who have at heart the interests of advanced liberal instruction at this University.

TABLE IV. — PERCENTAGE OF STUDENTS IN THEIR FIRST AND FOLLOWING YEARS: 1898–1904.

	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.	1903–04.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
First-year Students . .	55	53	54	50	54	61
Second-year Students .	21	25	23	26	26	21
Third-year Students .	13	11	15	12	11	12
Fourth-year Students and Students of longer residence .	11	11	8	12	9	6

The fact that most members of the Graduate School are in it for but one year is only one of several points of difference between the Graduate School and the other graduate departments of the University, the professional schools of Law, Medicine, and Divinity. In the latter nearly all the first-year men are fresh from college and intend to remain in their school three or four years. In the Graduate School only a small proportion are fresh from college. The Graduate Students are ordinarily rather mature young men who, in many instances, have been engaged in teaching, in other professional work, or in Graduate study elsewhere. Thus, of the first-year students in 1903–04, about forty-two per cent. (119) entered the School immediately after receiving the first degree in Arts or Science, or completing the requirements for it. (Of this category in 1902–03 the proportion was thirty-two per cent.; in 1901–02 it was twenty-six per cent.) Thirteen per cent. had been one year out of college, that is, had received their first degree in 1902 (34); eight per cent. had received their degree in 1901 (21); a little less than eight per cent. in 1900 (19), while the remainder, about twenty-nine per cent., had received their first degrees in 1899 or in an earlier year, that is, four or more years before entering the Graduate School. It is a good sign for the higher education that the proportion is increasing of men who are able to continue their advanced studies immediately after leaving college.

The fourth division of Table I shows in general the extent to which the School draws its members from Harvard University, as contrasted with other institutions. For detailed information on this point Tables V and IX may be consulted. About fifty-four per cent. of the members of the School held a degree from Harvard University, and the remaining forty-six per cent. held no Harvard degree. (In 1902–03 the proportions were nearly the same, fifty-three per cent. and forty-seven per cent. respectively.) The percentage of students who held no Harvard first degree in Arts or Sciences is given in Table VI. The drop in the percentage of students who held no Harvard first degree in Arts or Sciences is due to the unusually large accession of first-year men from Harvard College.

Tables V and IX supplement each other and show in detail the extent to which different parts of the country and the different higher institutions contribute to the membership of the Graduate School. In Table V are given the various colleges and universities, including professional and technical schools, American and foreign, whose graduates were members of the School in 1903–04, together with the degrees these men held and the number of different men from each institution.

TABLE V. — COLLEGES AND UNIVERSITIES, WITH DEGREES HELD: 1903–04.

	A.B.	S.B.	LITT.B.	PH.B.	A.M.	S.M.	PH.D.	S.T.B.	LL.B.	M.D.	No. Degrees.	No. Persons.
Acadia University, N. S.	3	...	...	...	2	...	...	...	...	...	5	3
Agricultural College of Utah	...	2	...	...	...	...	...	...	...	...	2	2
Albany Law School, N. Y.	...	...	...	...	...	...	...	...	1	...	1	1
Alma College, Mich.	...	...	1	...	...	...	...	...	...	...	1	1
Amherst College, Mass.	12	2	...	...	5	...	...	...	...	...	19	14
Bates College, Me.	3	...	...	...	...	...	...	...	...	...	3	3
Beloit College, Wis.	2	...	...	...	...	...	...	...	...	...	2	2
Berea College, Ky.	1	...	...	...	...	...	...	...	...	...	1	1
Boston University, Mass.	4	...	...	...	...	...	...	1	...	...	5	5
Bowdoin College, Me.	7	...	...	...	1	...	...	...	...	...	8	7
Brigham Young College, Utah	1	...	...	...	...	...	...	...	...	...	1	1
Brown University, R. I.	9	...	...	2	6	...	...	...	...	...	17	12
Bucknell University, Pa.	1	...	...	...	...	...	...	...	...	...	1	1
California, University of	3	...	...	...	4	...	...	...	...	...	7	4
Central University, Ky.	1	...	...	...	...	...	...	...	...	...	1	1
Chicago, University of, Ill.	...	...	...	...	1	...	...	...	...	...	1	1
Cincinnati, University of, O.	...	...	1	...	...	...	...	...	...	...	1	1
Colby College, Me.	3	...	...	...	1	...	...	...	...	...	4	3
College of Charleston, S. C.	1	...	...	...	...	...	...	...	...	...	1	1
Columbia University, N. Y.	3	...	...	...	1	...	1	...	...	...	5	5
Cornell College, Ia.	...	...	...	1	...	...	...	...	...	...	1	1
Cornell University, N. Y.	...	1	...	...	...	...	...	...	...	...	1	1
Dalhousie University, N. S.	1	1	...	...	1	...	...	...	...	...	3	2
Dartmouth College, N. H.	10	1	...	...	2	...	...	...	...	1	14	12
Davidson College, N. C.	2	...	...	...	1	...	...	...	...	...	3	2
Delaware College	1	...	...	...	...	...	...	...	...	...	1	1
Denison University, O.	2	1	...	...	...	...	...	...	...	...	3	3
De Pauw University, Ind.	1	...	...	2	...	...	...	...	...	...	3	3
Dickinson College, Pa.	2	...	...	...	1	...	...	...	...	...	3	2
Drew Theological Seminary, N. J.	...	...	...	...	...	...	...	1	...	...	1	1
Earlham College, Ind.	1	...	...	...	...	...	...	...	...	...	1	1

Gates College, Neb.	1										1	1
General Theological Seminary, N. Y.								1			1	1
Georgia, University of	1										1	1
Grove City College, Pa.	1				1						2	1
Hamilton College, N. Y.	1				1						2	1
Hamline University, Minn.				1							1	1
Hanover College, Ind.	1										1	1
Harvard University	158	14			102	2	5	1	1	1	284	232
Haverford College, Pa.	7				1						8	7
Heidelberg, University of, Germany							1				1	1
Hiram College, O.	2										2	2
Hobart College, N. Y.	1										1	1
Illinois, University of	1	1			1						3	2
Illinois Wesleyan University		1									1	1
Indiana University	1				1						2	2
Iowa College				1							1	1
Johns Hopkins University, Md.	2										2	2
Kansas, University of	2				1						3	3
Kansas Wesleyan University	1										1	1
Keiogijuku University, Japan	3										3	3
Kenyon College, O.				1	1						2	1
Leland Stanford Jr. University, Cal.	4				1						5	4
Lincoln University, Ill.	1										1	1
McKendree College, Ill.	1										1	1
McMaster University, Ont.	1				1						2	1
Manitoba, University of	1										1	1
Massachusetts Institute of Technology		1									1	1
Mercer University, Ga.	1				1						2	1
Michigan, University of	6	1		3	1						11	10
Missouri, University of	1		1								2	2
Montana College		1				1					2	1
Muhlenberg College, Pa.	1										1	1
National Normal University, O.		1									1	1
Nebraska, University of	1				1						2	1
New Mexico, University of		1									1	1
New York University		1		1						1	3	3

TABLE V. — CONTINUED.

	A.B.	S.B.	LITT.B.	PH.B.	A.M.	S.M.	PH.D.	S.T.B.	LL.B.	M.D.	No. Degrees.	No. Persons.
North Carolina, University of	1			1							2	2
Northwestern University, Ill.		1				1					2	2
Ohio Northern University	1		1	1							3	2
Ohio State University		1		1		1					3	2
Ohio Wesleyan University	7	1			1						9	8
Oklahoma, University of	1										1	1
Oregon, University of	2										2	2
Otterbein University, O.	1										1	1
Paris, University of, France*			1								2	2
Pennsylvania, University of	2	2									4	4
Prague, University of, Austria							1				1	1
Princeton University, N. J.	1										1	1
Pritchett College, Mo.						1					1	1
Queen's University, Ont.					2						2	2
Rhode Island College		2									2	2
Rochester, University of, N. Y.	2										2	2
Rutgers College, N. J.	1				1						2	1
St. Anselm's College, N. H.	1			1							2	1
St. Lawrence University, N.Y.	1				1						2	1
South Carolina College					1						1	1
South Dakota, University of					1						1	1
Southern University, Ala.	1										1	1
State University of Iowa				1	1	1					3	2
Swarthmore College, Pa.*		1	1								3	2
Syracuse University, N.Y.	1										1	1
Texas, University of	4	1			4						9	5
Toronto, University of, Ont.	4				2						6	4
Trinity College, Conn.	5				1						6	5
Trinity College, N. C.					1						1	1
Tufts College, Mass.	5				4						9	6
Upper Iowa University				1							1	1

Utah, University of	...	1	...	...	...	...	...	...	...	...	1	1
Valparaiso College, Ind.	1	...	...	...	...	...	...	...	...	...	1	1
Vanderbilt University, Tenn.	2	...	...	...	1	...	...	1	...	...	4	3
Vermont, University of	1	...	...	1	1	...	...	...	...	...	3	2
Victoria University, England	1	...	...	...	...	...	...	...	...	...	1	1
Vienna, University of, Austria	...	...	...	...	...	...	1	...	...	...	1	1
Virginia, University of	1	...	...	...	1	...	...	...	...	...	2	1
Washington and Jefferson College, Pa.	2	...	...	...	1	...	1	...	...	...	4	2
Washington and Lee University, Va.	...	...	...	...	1	...	1	...	...	...	2	1
Washington University, Mo.	1	1	...	...	...	...	...	...	...	...	2	2
Weatherford College, Tex.	1	...	...	...	...	...	...	...	...	...	1	1
Wesleyan University, Conn.	4	...	...	...	...	...	...	...	...	...	4	4
Western College, Ia.	1	...	...	...	...	...	...	...	...	...	1	1
Western Maryland College	1	...	...	...	...	...	...	...	...	...	1	1
Western Reserve University, O.	1	...	1	...	...	...	...	...	...	...	2	2
West Virginia University	5	...	...	...	1	...	...	...	1	...	7	6
Willamette University, Ore.	1	...	...	...	...	...	...	...	...	...	1	1
Williams College, Mass.	7	...	...	...	...	...	...	...	...	...	7	7
Wisconsin, University of *	1	1	1	...	...	1	...	...	...	...	5	3
Wofford College, S.C.*	2	...	...	...	...	...	...	...	...	...	3	3
Worcester Polytechnic Institute, Mass.	...	1	...	...	...	...	...	...	...	...	1	1
Yale University, Conn.	8	...	...	...	2	...	...	...	...	...	10	9
Total	357	43	8	19	168	8	11	5	3	3		516
Non-Graduates and other Graduates (see note)												26
												542
Deduct for names counted twice or more than twice												115
												427

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* Besides the degrees enumerated above, the following were held by one or two persons as indicated: D.D., Wofford College, S.C.; Litt.M. (2), Swarthmore College, Pa., and the University of Wisconsin; Heb.B. and Rabbi, Hebrew Union College, O.; B.C.E. and C.E., University of Maine; Pd.B. (2), Michigan State Normal School, and Southwest Kansas College; Pd.M., Michigan State Normal School; S.D.B., Missouri State Normal School, Warrensburg; Agrégé-des-lettres, University of Paris, France; Landbouwkundige, Higher School of Agriculture and Forestry, Wageningen, Holland. There were, further, in the School one graduate each of Andover Theological Seminary, Mass.; Meadville Theological School, Pa.; Western Theological Seminary, Pa.; United States Naval Academy, Md.; and the Königliche Academie der Tonkunst, Munich, Germany. There were three students from European Universities who had received no academic degree. There were six Harvard College Seniors on leave of absence; five other non-graduates of Harvard College; and one non-graduate of the Massachusetts Institute of Technology.

TABLE VI. — PERCENTAGE OF STUDENTS FROM OTHER COLLEGES.

	1896–97.	1897–98.	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.	1903–04.
Percentage of Students holding no Harvard degree	40	40	41	44	44	40	46	46
Percentage of Students holding no Harvard first degree in Arts or Sciences	52	55	55	61	62	56	62	59

These tables (V, VII, IX) show that men continue to come to the Graduate School from colleges and universities in all parts of the country, and, to a slight extent, from those in Canada and foreign lands. The entire number of institutions thus represented is one hundred and thirty-one.

TABLE VII. — FIRST-YEAR MEN: PERCENTAGE FROM VARIOUS COLLEGES AND UNIVERSITIES — 1901–02, 1902–03, 1903–04.

	1901–02.	1902–03.	1903–04.
Harvard	31	33	38
Other New England Colleges	14	20	21
Colleges in the Central States	34	24	18
Colleges in States West of the Mississippi	9	12	9
Colleges in Southern States	4	6	7
Colleges in Canada	7	3	3
Foreign Universities	..	..	4

Table VII gives the percentage of first-year men from various colleges and universities for the last three years. Noteworthy is the steady increase of men from Harvard and the decline in the proportion of men from the Central and Western States. It is probable that the recent developments in the great universities of the Central States have drawn students from the colleges in this region to these universities, and have thus diminished their resort to the Harvard Graduate School.

The most common degree held by members of the School was that of Bachelor of Arts (three hundred and fifty-seven), next, that of Master of Arts. There were one hundred and sixty-eight Masters of Arts, eight Masters of Science, and eleven Doctors of Philosophy in the School in 1903–04, as against one hundred and sixty-one Masters of Arts, thirteen Masters of Science, and ten Doctors of Philosophy in the preceding year.

TABLE VIII. — PERCENTAGE OF BACHELORS' DEGREES OF DIFFERENT KINDS: 1897–1904.

	1897–98.	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.	1903–04.
A.B.'s	84	86	84	80	84	83	84
S.B.'s	9	8	10	11	11	10	10
Other Bachelors' degrees	7	6	6	9	5	7	6

The percentage of Bachelors' degrees in Arts and Science for the last seven years is remarkably constant.

The list of colleges that send four or more men each year to the Graduate School varies only slightly from year to year, as may be seen in Table IX. Leaving Harvard graduates out of consideration, there were in 1896–97 fourteen colleges represented by four or more men; in 1897–98, eighteen; in 1898–99, fifteen; in 1899–1900, twenty-four; in 1901–02, seventeen; in 1902–03, twenty; in 1903–04, twenty.

The colleges and universities that have been steadiest in the supply of Graduate Students for the past seven years, each sending four or more every year, are Amherst, Brown, California, and Yale. Other colleges that within this period of seven years have sent for six years four or more men are Bowdoin, Haverford, Michigan, Toronto, and Tufts; for five years, Dartmouth, Northwestern, Leland Stanford Jr., and Ohio Wesleyan; for four years, Kansas and Oberlin; and for three years, Beloit, Boston University, Dalhousie, Pennsylvania, Trinity (Connecticut), Wesleyan (Connecticut), Western Reserve, and Williams.

It is interesting to note that six members of the Graduate School were holders of travelling fellowships from some other institution, viz., Amherst (a South End House Fellowship and the Rufus B. Kellogg University Fellowship), Bowdoin (the Charles Carroll Everett Fellowship), Princeton (the Boudinot Fellowship), Swarthmore (the Joshua Lippincott Fellowship), and the University of Paris (Cercle Français Fellowship). With these might well be classed the holder of the George Foster Peabody Scholarship of this University, which is open only to graduates of the University of Georgia, and the three holders of the scholarships of the Harvard Clubs of Chicago, St. Louis, and San Francisco, respectively, who come each from a college in or near one of these cities.

TABLE IX. — COLLEGES AND UNIVERSITIES REPRESENTED BY FOUR OR MORE GRADUATES IN THE SCHOOL: 1899–1900, 1900–01, 1901–02, 1902–03, 1903–04.

1899–1900.		1900–01.		1901–02.		1902–03.		1903–04.	
Harvard,	191	Harvard,	197	Harvard,	189	Harvard,	174	Harvard,	232
California,	8	Brown,	11	Amherst,	8	Brown,	11	Amherst,	14
Amherst,	7	Amherst,	10	Bowdoin,	8	Amherst,	10	Brown,	12
Michigan,	7	Bowdoin,	9	Brown,	8	Bowdoin,	7	Dartmouth,	12
Oberlin,	6	Oberlin,	9	California,	7	Dartmouth,	7	Michigan,	10
Leland Stanford Jr.,	6	California,	7	Toronto,	6	Chicago,	7	Yale,	9
Northwestern,	6	Illinois,	7	Dalhousie,	5	Michigan,	7	Ohio Wesleyan,	8
Brown,	5	Michigan,	7	Dartmouth,	5	Columbia,	6	Bowdoin,	7
Haverford,	5	Yale,	7	Ohio Wesleyan,	5	Leland Stanford Jr.,	6	Haverford,	7
Pennsylvania,	5	Dartmouth,	6	Trinity (Conn.),	5	Northwestern,	6	Williams,	7
Toronto,	5	Toronto,	6	New Brunswick,	5	Tufts,	6	Tufts,	6
Tufts,	5	Wesleyan (Conn.),	6	Missouri,	5	California,	6	West Virginia,	6
Wesleyan (Conn.),	5	Williams,	6	Haverford,	4	Yale,	6	Boston Univ.,	5
Beloit,	4	Boston Univ.,	5	Oberlin,	4	Haverford,	5	Columbia,	5
Boston Univ.,	4	Kansas,	5	Princeton,	4	Ohio Wesleyan,	5	Texas,	5
Bowdoin,	4	Northwestern,	5	Tufts,	4	Trinity (Conn.),	5	Leland Stanford Jr.,	4
Colby,	4	Pennsylvania,	5	Yale,	4	Texas,	5	Trinity (Conn.),	4
Dalhousie,	4	Tufts,	5			Beloit,	4	California,	4
Indiana,	4	Beloit,	4			New York,	4	Pennsylvania,	4
Kansas,	4	Dalhousie,	4			Williams,	4	Toronto,	4
Nebraska,	4	Haverford,	4			Wofford,	4	Wesleyan (Conn.),	4
Rochester,	4	Nebraska,	4						
Western Reserve,	4	New Brunswick,	4						
Williams,	4								
Yale,	4								
Total Membership,	341		358		315		325		427

A cursory examination of Table V, particularly of the higher degrees there recorded, shows that a large proportion of the students had pursued graduate studies before beginning the work of the year with us. Closer inspection of the lists of students shows that in 1903–04 over one-half of the members of the School (two hundred and twenty-six) had previously carried on such studies, there having been two hundred and one that had not. Of this half, eighty-eight students — or about one-fifth of the whole number — had carried on these graduate studies at other universities. Of these eighty-eight, thirty had had graduate studies at Harvard also.

With the students who have pursued graduate studies elsewhere may be grouped teachers who are on formal leave of absence and expect to return to the positions which they have left. The number of these is large: seventeen colleges were represented in the School by professors or other instructors on leave of absence, as were also five preparatory schools or institutions of similar grade. These figures do not include a very important group of about forty men in the School who, while carrying on their studies, were teaching in or near Cambridge. Twenty-two such teachers were in the service of this University, not including forty-seven others who were assistants. There were in the School seventeen other teachers, eight of whom were teaching in neighboring colleges, and nine in schools or academies.

Table X shows that in the last seven years a trifle more than three-fifths of the students were born out of New England. On the other hand, as many as one-half claim residence in New England (Table XI). The proportion of men from the Southern States is happily larger than it has been for the past seven years.

Of the four hundred and twenty-seven students in the School in 1903–04, sixty-nine were married men, whose wives and families for the most part accompanied them to Cambridge. Of these married men, ten were holders of fellowships or scholarships, including four Austin Scholars. These students occasionally have difficulty in finding accommodations for themselves and their families during their temporary sojourn at the University. Apartment houses or small hotels which could furnish such students with apartments for short terms (one, two, or three years) would, I am convinced, be popular.

TABLE X. — BIRTHPLACES OF GRADUATE STUDENTS: 1897–1904.

	1897–98.	1898–99.	1899–1900.	1900–01.	1901–02.	1902–03.	1903–04.
Students born in the New England States	121	143	122	127	107	122	168
Students born in other Northern States east of the Mississippi River	89	106	119	136	109	108	141
Students born in Southern States east of the Mississippi River . .	19	15	17	16	11	14	31
Students born in States west of the Mississippi River	26	30	34	30	39	39	35
Students born in the Dominion of Canada	18	25	23	21	22	16	17
Students born in other foreign countries	20	17	26	23	27	26	35
Total number of students . .	293	336	341	353	315	325	427
Percentage of students born in New England	41	43	36	36	34	38	39
Percentage of students born elsewhere	59	57	64	64	66	62	61

TABLE XI. — RESIDENCES OF GRADUATE STUDENTS: 1900–1904.

	1900–01.	1901–02.	1902–03.	1903–04.
New England States	167	146	167	221
Northern States east of the Mississippi River .	99	88	88	120
Southern States east of the Mississippi River .	16	11	12	25
States west of the Mississippi River	46	45	40	38
Canada	18	19	12	13
Foreign countries	7	6	6	10
	353	315	325	427

DEGREES.

Two hundred and fourteen men were recommended* for the higher degrees of Doctor or Master at Commencement, 1904, a larger number by thirty-four than in any previous year. The details are found in the following table (XII), which gives in the first and second parts the number of students in the Graduate School recommended by the Faculty of Arts and Sciences for any degree, and the number of other students recommended for the four higher degrees in the three years, 1902, 1903, and 1904. In the other part of the table all persons recommended for the higher degrees are classified with reference to their previous graduation as Bachelors of Arts or of Science.

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* The number of persons recommended each year, and that of the men who actually receive the degree, as published in the Annual Catalogue, do not always agree. Usually a few of the candidates recommended do not receive the degree at once. The degree is in these cases ordinarily conferred in a later year, "as of" the year in which the recommendation was made.

TABLE XII.—RECOMMENDATIONS FOR DEGREES IN 1902–04.

	1902.		1903.		1904.	
I. Graduate Students recommended for A.B. . .	11		10		3	
Graduate Students recommended for A.M. . .	94		97		113	
Graduate Students recommended for S.M. . .	8		6		3	
Graduate Students recommended for Ph.D. .	28		28		44	
Graduate Students recommended for S.D. . .	3	144	1	142	1	164
II. College Seniors recommended for A.M. . . .	1		1		0	
College Seniors of a preceding year, recommended for A.M. on work done in Senior year	19		24		36	
College Juniors of a preceding year, recommended for A.M. on work done in Junior year	0		1		0	
L.S.S. fourth-year men of a preceding year, recommended for S.M. on work done in L.S.S. fourth year	0		1		0	
Professional students recommended for A.M. on special courses of study	10		5		15	
Professional students recommended for Ph.D. on special courses of study	0	30	0	32	2	53
Total of the above list		174		174		217
Deduct Graduate Students recommended for A.B.		11		10		3
Total number recommended for A.M., S.M., Ph.D., and S.D.		163		164		214
III. Harvard Bachelors of Arts or Science, not previously graduated elsewhere	58		68		95	
Harvard Bachelors of Arts or Science, previously graduated elsewhere	31		12		11	
Students not Harvard Bachelors of Arts or Science	74	163	84	164	108	214

Two or three remarks may be made on this table. Of the men who were recommended for higher degrees, seventy-five per cent. were Graduate Students (one hundred and sixty-one), and only seven per cent. of the entire number, though a larger number than ever before, had completed their work while registered in another graduate department of the University, as Law or Divinity Students.

Seventeen per cent. of the recipients of the higher degrees had never been registered in the Graduate School or in a graduate department of this University; these were thirty-six men who had completed their work as undergraduates (Seniors). Hereafter, however, this anomaly — of undergraduates qualifying for a graduate degree — will disappear (see below, p. 165). Only three men received the degree of Bachelor of Arts. This anomaly also — of qualifying for an undergraduate degree in the Graduate School — will disappear.

There has been now for more than six years a gradual increase in the proportion of non-Harvard men who come up for the higher degrees — from forty-four per cent. in 1899 to fifty and one-half per cent. in 1904.

TABLE XIII. — DIVISIONS AND DEPARTMENTS IN WHICH RECOMMENDATIONS FOR THE HIGHER DEGREES WERE MADE IN 1904.

Division.	Department.	Degrees.			
		A.M.	S.M.	Ph.D.	S.D.
I.	Semitic Languages and History	..	..	..	..
II.	Ancient Languages:				
	Indic Philology	..	..	1	..
	The Classics (Greek, Latin)	18	..	3	..
	Total in Ancient Languages	— 18	— ..	— 4	— ..
III.	Modern Languages:				
	English	28	..	3	..
	Germanic Languages and Literatures	1	..	..	..
	French, and other Romance Languages and Literatures	11	..	5	..
	In more than one Department	2	..	..	..
	Total in Modern Languages	— 42	— ..	— 8	— ..
IV.	History and Political Science:				
	History and Government	23	..	4	..
	Political Economy	17	..	1	..
	Total in Hist. and Political Sci.	— 40	— ..	— 5	— ..
V.	Philosophy	16	..	8	..
	[Education	5]			
VI.	The Fine Arts:				
	History and Principles of the Fine Arts	1	..	..	..
	Architecture	..	1	..	..
	Total in the Fine Arts	— 1	— 1	— ..	— ..
VII.	Music	..	..	..	..
VIII.	Mathematics	9	..	1	..
IX.	Engineering	3	..	..	..
X.	Physics	4	..	2	..
XI.	Chemistry	6	..	5	..

		Degrees.			
Division.	Department.	A.M.	S.M.	Ph.D.	S.D.
XII. Biology:					
	Botany	1	1	5	..
	Zoölogy	1	..	3	..
	Total in Biology	2	1	8	..
XIII. Geology:					
	Geology and Geography	2	..	2	..
	Mineralogy and Petrography	1	..	..	..
	Mining and Metallurgy	1	1	..	1
	Total in Geology	4	1	2	1
XIV. Anthropology		..	..	1	..
In more than one Division		4	..	..	..
Professional Students:					
	Divinity School	12	..	2	..
	Law School	3	..	..	..
	Medical School	..	..	..	..
	Total	164	3	46	1

In Table XIII are indicated the Departments or fields of study in which lay the chief work of the successful candidates for the higher degrees. A comparison of this table with Table III, with a view to determining the relation of the choice of courses by Graduate Students to the degrees won, may be of interest.

Seven of the fourteen Divisions were represented by ten or more candidates: Modern Languages by fifty (including eight Doctors); History and Political Science by forty-five (including five Doctors); Philosophy by twenty-four (including four Doctors); Ancient Languages by twenty-two (including four Doctors); Biology by eleven (including eight Doctors); Chemistry by eleven (including five Doctors); Mathematics by ten (including one Doctor).

One hundred and sixty-seven Masters were recommended in course (one hundred and sixty-four in Arts and three in Science), a larger number than ever before. Forty-six Doctors of Philosophy and one Doctor of Science were created. Two of the Doctors of Philosophy were Divinity Students; the remainder were Graduate Students.

The degree of Doctor was conferred on the forty-seven men named below. With each name is indicated the special field in which the degree was taken, the candidate's academic history in brief, the subject of his thesis, and his present occupation.

The Doctors of Philosophy were: —

Philology.

Haven Darling Brackett.

Classical Philology. — A.B. (*Amherst Coll.*) 1898. — Res. Gr. Stud., 1901–04.

Thesis: "De Enuntiatorum Temporalium apud Herodotum Usu atque Ratione Commentatio."

Instructor in Greek and Latin, Clark College, Worcester.

Edward Ernest Braithwaite.

Semitic Languages and History. — A.B. (*McGill Univ., Que.*) 1886, S.T.B. (*Oberlin Coll., O.*) 1890, A.M. (*Harvard Univ.*) 1901. — Stud., Harvard Divinity School, 1900–01 and 1902–03.

Thesis: "Is there a 'Priests' Code' in the Pentateuch?"

Pastor of the Day Street Congregational Church, West Somerville, Mass.

Hall Laurie Calhoun.

Semitic Languages and History. — A.B. (*Kentucky Univ.*) 1892, Gr., *Coll. of the Bible, Ky.*, 1892, S.T.B. (*Yale Univ.*) 1902, A.M. (*Harvard Univ.*) 1903. — Stud., Harvard Divinity School, 1902–04.

Thesis: "The Remains of the Old Latin Translation of Leviticus."

Professor in Kentucky University, Lexington.

Charles Henry Carter.

English Philology. — A.B. (*Haverford Coll., Pa.*) 1900, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–04.

Thesis: "Ipomedon."

Instructor in English, Syracuse University.

Winthrop Holt Chenery.

Romance Philology. — S.B. (*Mass. Institute of Technology*) 1896, A.B. (*Harvard Univ.*) 1897, A.M. (*ibid.*) 1898. — Res. Gr. Stud., 1897–99.

Thesis: "Object Pronouns in Dependent Clauses: A Study in Old Spanish Word Order."

Continuing his studies in Paris.

Harold Loomis Cleasby.

Classical Philology. — A.B. (*Trinity Coll., Conn.*) 1899, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–04.

Thesis: "De Seneca Tragico Ovidi Imitatore."

Now studying Classical Philology at Berlin, as Parker Fellow.

Edwin Almiron Greenlaw.

English Philology. — A.B. (*Northwestern Univ., Ill.*) 1897, A.M. (*ibid.*) 1898, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902–03.

Thesis: "The Avowing of Arthur."

Instructor in English, Northwestern University.

Chester Noyes Greenough.

English Philology. — A.B. 1898, A.M. 1899. — Res. Gr. Stud., 1898–99 and 1902–04.

Thesis: "Studies in the Development of Character Writing in England."

Now studying English Philology at London, as Rogers Fellow.

William Henry Paine Hatch.

Classical Philology. — A.B. 1898, A.M. 1899, S.T.B. (*Episcopal Theol. School, Cambridge*) 1902. — Res. Gr. Stud., 1898–1903.

Thesis: "De Verborum *ἀλιτήριος*, *ἀλιτρός*, *ἀραῖος*, *ἐναγής*, *ἐνθύμιος*, *παλαμναῖος*, *προστρόπαιος* Usu apud Scriptores Graecos usque ad annum CCC ante Christum natum."

Rector, St. James's Church, Lake George, N. Y.

William Alexander Robb Kerr.

Romance Philology. — A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–02 and 1903–04.

Thesis: "Platonic Love Theories in the Renaissance, with Special Regard to France."

Instructor in Romance Languages, Adelphi College, Brooklyn, N.Y.

Truman Michelson.

Indic Philology. — A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902–04.

Thesis: "Linguistic Archaisms of the Rāmāyana."

Now studying Indic Philology at Leipsic, as Parker Fellow.

Arthur Beckwith Myrick.

Comparative Literature. — A.B. 1900, A.M. 1901. — Res. Gr. Stud., 1900–04.

Thesis: "Some Notes on Italian Borrowings from England in the Eighteenth Century."

Instructor in Romance Languages in the Academia Scientifico-litteraria, Milan, Italy.

Andrew Paul Raggio.

Romance Philology. — A.B. (*Univ. of Texas*) 1896, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–04.

Thesis: "A Treatment of the Development from Popular Latin to Spanish of certain Consonant Groups ending in Y."

Lecturer on Italian and Old French, Bryn Mawr College.

Alphonso de Salvio.

Romance Philology. — A.B. (*Trinity Coll., Conn.*) 1899, A.B. (*Harvard Univ.*) 1902, A.M. (*ibid.*) 1904. — Res. Gr. Stud., 1901–04.

Thesis: "The Verse Endings and the Rhyme in the Divina Commedia."

Instructor in Romance Languages, Northwestern University.

Philosophy.

James Carleton Bell.

Psychology. — A.B. (*Denison Univ., O.*) 1896, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902–04.

Thesis: "Reactions of the Crayfish to Sensory Stimuli"

Teacher of Latin, Boston Latin School.

Foster Partridge Boswell.

Psychology. — A.B. (*Hobart Coll., N.Y.*) 1901, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–04.

Thesis: "Visual Irradiation."

Assistant in the Psychological Laboratory, University of Wisconsin.

Frank Carleton Doan.
Ethics. — PH.B. (*Ohio State Univ.*) 1898, A.M. (*Harvard Univ.*) 1900. — Res. Gr. Stud., 1898–1900.
Thesis: "Pluralism and the Moral Life."
Professor of the Philosophy of Religion, Meadville Theological School.

Bernard Capen Ewer.
Logic. — A.B. (*Brown Univ., R.I.*) 1899, A.M. (*ibid.*) 1900. — Res. Gr. Stud., 1901–04.
Thesis: "The Psychology of Predication."
Teacher of Mathematics, Mount Hermon School.

Louis William Flaccus.
Ethics. — A.B. (*Washington and Jefferson Coll., Pa.*) 1900, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–04.
Thesis: "Analysis of Moral Evaluation."
Honorary Fellow in Philosophy in Clark University.

William Ernest Hocking.
Metaphysics. — A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1901–02 and 1903–04; Non-Res. Stud., 1902–03.
Thesis: "The Elementary Experience of Other Conscious Being in its Relations to the Elementary Experiences of Physical and Reflexive Objects."
Instructor in Philosophy, Andover Theological Seminary.

Percy Adams Hutchison.
Aesthetics. — A.B. 1898, A.M. 1902. — Res. Gr. Stud., 1901–04.
Thesis: "Logical and Psychological Problems in Poetic Criticism."
Assistant in Philosophy at this University.

Mortimer Phillips Mason.
Logic. — A.B. 1899, A.M. 1900. — Res. Gr. Stud., 1902–04.
Thesis: "The Problem of Psychology; or, The Relation of Criticism to the Concept of the Psychical."
Continuing his studies abroad.

History.

John Higginson Cabot, 2d.
Italian History. — A.B. 1900, A.M. 1903. — Res. Gr. Stud., 1902–04.
Thesis: "Bonaparte and the Congress of Modena, or the Cispadane Confederation of 1796: The Beginning of the Risorgimento."
Instructor in History, Wellesley College.

Everett Kimball.
American History. — A.B. (*Amherst Coll.*) 1896, A.M. (*ibid.*) 1899, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–04.
Thesis: "The Public Life of Joseph Dudley (1672–1715)."
Instructor in History, Smith College.

Guy Hall Roberts.
American History. — A.B. (*Univ. of Minnesota*) 1899, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900–03.
Thesis: "The Foreign Commerce of the United States during the Confederation."
Instructor in History and Political Science, Bowdoin College.

Henry Robinson Shipman.
Russian History. — A.B. (*Yale Univ., Conn.*) 1899, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900–04.
Thesis: "Russian Foreign Policy under Catherine I."
Instructor in History, Dartmouth College.

Political Science.

David Hutton Webster.
Sociology. — A.B. (*Leland Stanford Jr. Univ., Cal.*) 1896, A.M. (*ibid.*) 1897, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902–04.
Thesis: "Primitive Social Control: A Study of Initiation Ceremonies and Secret Societies."
Assistant Professor of Economics, Williams College.

Mathematics.

Lewis Darwin Ames.
Analysis. — LITT.B. (*Univ. of Missouri*) 1899, A.B. (*Harvard Univ.*) 1901, A.M. (*ibid.*) 1902. — Res. Gr. Stud., 1900–03.
Thesis: "An Arithmetic Treatment of some Problems in Analysis Situs."
Instructor in Mathematics, University of Missouri.

Physics.

Edwin Plimpton Adams.
Electricity. — S.B. (*Beloit Coll., Wis.*) 1899, S.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1899–1901; Non-Res. Stud., 1901–03.
Thesis: I. "The Electromagnetic Effects of Moving Charged Spheres." II. "Water Radioactivity." III. "The Induced Radioactivity Due to Radium."
Instructor in Physics, Princeton University.

John L Hogg.
Molecular Physics. — A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901–04.
Thesis: "Pressure Gauges for High Vacua."
Now continuing his studies at this University, as John Tyndall Scholar.

Chemistry.

Daniel Francis Calhane.
Organic Chemistry. — A.B. 1894, A.M. 1896. — Res. Gr. Stud., 1895–96 and 1897–1903.
Thesis: I. "The Action of Sodic Ethylate on certain Dibromdinitrobenzols, with some New Derivatives in this Class." II. "On the Manner of Oxidation to Quinones in the Case of Aromatic Diamines."
Instructor in Chemistry, Worcester Polytechnic Institute.

Henry Avery Carlton.
Organic Chemistry. — A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902–04.
Thesis: "On some Addition Compounds Derived from certain Aromatic Compounds."
In the Mallinckrodt Chemical Works, St. Louis, Mo.

ARTHUR BECKET LAMB.
Physical Chemistry.—A.B. (*Tufts Coll.*) 1900, A.M. (*ibid.*) 1900, A.M. (*Harvard Univ.*) 1903, PH.D. (*Tufts Coll.*) 1904.—Res. Gr. Stud., 1902–04.
Thesis: "The Specific Heats of Aqueous Salt Solutions."
Continuing his studies at Leipsic, as Parker Fellow.

PHILIP ANDERSON SHAFFER.
Physiological Chemistry.—A.B. (*West Virginia Univ.*) 1900.—Res. Gr. Stud., Feb. 1902–1904.
Thesis: "An Investigation of Metabolism in the Insane, together with a Discussion of Analytical Technique in Metabolism Experiments."
Continuing his studies at the Cornell Medical College, New York City.

ROGER CLARK WELLS.
Inorganic and Physical Chemistry.—A.B. 1901.—Res. Gr. Stud., 1901–04.
Thesis: "The Atomic Weight of Sodium."
Instructor in Chemistry at this University.

Biology.

GLOVER MORRILL ALLEN.
Zoölogy.—A.B. 1901, A.M. 1903.—Res. Gr. Stud., 1901–04.
Thesis: "The Heredity of Coat Color in Mice."
Secretary of the Boston Society of Natural History.

ALBERT FRANCIS BLAKESLEE.
Botany.—A.B. (*Wesleyan Univ., Conn.*) 1896, A.M. (*Harvard Univ.*) 1900.—Res. Gr. Stud., 1899–1904.
Thesis: "Sexual Reproduction in the Mucorineae."
Continuing his studies in Europe.

FREDERIC WALTON CARPENTER.
Zoölogy.—S.B. (*New York Univ.*) 1899, A.M. (*Harvard Univ.*) 1902.—Res. Gr. Stud., 1900–04.
Thesis: "The Development of the Oculomotor Nerve, the Ciliary Ganglion, and the Abducent Nerve in the Chick."
Instructor in Zoölogy, University of Illinois.

JAMES BROWN DANDENO.
Botany.—A.B. (*Queen's Univ., Ont.*) 1895, A.M. (*Harvard Univ.*) 1899.—Res. Gr. Stud., 1898–99.
Thesis: "An Investigation of some of the Effects of Water and of certain Aqueous Solutions Applied to Foliage."
Assistant Professor of Botany, Michigan State Agricultural College.

JOSEPH HORACE FAULL.
Botany.—A.B. (*Univ. of Toronto, Ont.*) 1898.—Res. Gr. Stud., 1901–02.
Thesis: "The Development of the Ascus and the Formation of the Spores in the Ascomycetes."
Lecturer in Botany, University of Toronto.

ROBERT GREENLEAF LEAVITT.
Botany.—A.B. 1889, A.M. 1898.—Res. Gr. Stud., 1897–99.
Thesis: "Trichomes of the Root in Vascular Cryptogams and Angiosperms."
Engaged in botanical research at the Ames Botanical Laboratory, North Easton, Mass.

GRANT SMITH.
Zoölogy.—S.B. (*Univ. of Wisconsin*) 1897, S.M. (*ibid.*) 1899.—Res. Gr. Stud., 1901–04.
Thesis: "On the Eyes of certain Pulmonate Gastropods, with Special Reference to the Neurofibrillae in Limax Maximus."
Teacher of Biology, Chicago Normal School.

JAMES JACOB WOLFE.
Botany.—A.B. (*Wofford Coll., S.C.*) 1896.—Res. Gr. Stud., 1902–04.
Thesis: "Cytological Studies on Nemalion."
Adjunct Professor of Biology, Trinity College, N.C.

Geology.

JAMES MACKINTOSH BELL.
Economic Geology.—A.M. (*Queen's Univ., Ont.*) 1899.—Res. Gr. Stud., 1902–04.
Thesis: "Report on the Michipicoten Iron Range."
Geologist to the Government of New Zealand.

PHILIP SIDNEY SMITH.
General Geology.—A.B. 1899, A.M. 1900.—Res. Gr. Stud., 1899–1900 and 1901–02.
Thesis: "The Copper Sulphide Deposits of Orange County, Vermont."
Instructor in Geology at this University.

Anthropology.

ALFRED MARSTON TOZZER.
Ethnology.—A.B. 1900, A.M. 1901.—Res. Gr. Stud., 1900–01.
Thesis: "A Comparative Study of the Mayas and the Lacandones."
Fellow for Indian Archaeology of the Archaeological Institute of America, Peabody Museum, Cambridge, Mass.

The Doctor of Science was: —

Geology.

HENRY COOK BOYNTON.
Metallurgy and Metallography.—A.B. 1900, S.M. 1901.—Res. Gr. Stud., 1900–02.
Thesis: "An Investigation into the Relation between the Treatment, Structure, and Properties of Steel."
Instructor in Metallurgy and Metallography at this University.

Of the forty-seven Doctors, thirty-seven — or three-fourths of the whole number — are known to be now engaged each in the actual pursuit of his profession. Twenty-six are teachers in colleges or universities, five of them having the rank of professor; of the seventeen instructors, three are in the service of this University; of the two lecturers and two assistants, one assistant is at this University. Four are connected with secondary schools. Two are carrying on research in the line of their profession, in botany and in archaeology, respectively. Two are pastors of churches; one is an expert in industrial chemistry; one is an official government geologist (in New Zealand); one is secretary of a scientific institution. The remaining ten are students — eight in Europe (including five travelling fellows) and two in the United States.

The degree of Doctor of Philosophy is based on that of Bachelor of Arts, or its equivalent, or on that of Master of Arts. Hence all the Doctors held degrees in Arts except two, who were Bachelors and Masters of Science. Thirty-nine Doctors held the degree of Master of Arts; six held the degree of Bachelor of Arts, but not that of Master of Arts. Thirty-seven were Harvard Masters of Arts; of these seventeen were also Harvard Bachelors of Arts. Of the other twenty, seven were also Masters of Arts elsewhere, and all but two were Bachelors of Arts elsewhere, one of them being a Bachelor of Philosophy, the other a Bachelor of Science. Only one Harvard man had no degree but Bachelor of Arts; another had only Master of Science, with Bachelor of Science elsewhere; another was a Harvard Bachelor of Arts and Master of Science. Three of the candidates, besides holding both degrees in Arts, had the degree of Bachelor of Divinity. On the other hand, five only had no degree except Bachelor of Arts, one from Harvard, four elsewhere, and one had only the degree of Master of Arts elsewhere. Of the forty-seven candidates, fifteen only were Harvard Bachelors of Arts who had not previously graduated elsewhere. About two-thirds, then, of the candidates for the degree of Doctor of Philosophy were men whose undergraduate work had been mainly done before they entered Harvard.

In the case of twenty candidates, six or more years had elapsed since the candidate had received his first degree in Arts or Science. Of the remaining twenty-seven, twelve had been out of college for five years, nine for four years, four for three years, two for two years only.

The period of resident study of the Doctors of Philosophy varied from one year (four candidates) to seven years (one candidate). Four candidates were in residence for one year only, eighteen for two years, eighteen for three years, three for four years, and two for five years. Of the four who had had one year only of residence, all had previously done approved graduate work, one during his Senior year in Harvard College, three at other Universities. The Divisions or Departments in which the degree was conferred after one year of resident study were Botany (two candidates), English, and Anthropology (one each); those after two years of resident study were Philosophy (four), Geology (three), Semitics, Romance Philology, Chemistry, and Botany (with two each), and Indic Philology, History, Political Science, and Physics (with one each). The Departments in which three years were found necessary by certain candidates were Philosophy (with four men), Classics, English, Romance Philology, History, Zoölogy, and Chemistry (with two each), and Mathematics and Physics (with one each). The three candidates who devoted four years each to resident study were in Comparative Literature, History, and Zoölogy. The five-year men were in Classics and Botany, and the seven-year man in Chemistry.

The average period of resident study for these candidates proves to be somewhat less than three years. If, however, we reckon in with this the time spent in graduate study at other universities by most of the shorter term candidates, the average length of time given to special preparation for the Doctor's degree will be a little more than three years. The candidates in 1904 show a lower average than has been usual in the past.

Tables XIV and XV explain themselves. In 1904, fifty-seven Graduate Students secured the degree of Master of Arts whom we may regard as normal Masters of Arts. They had continued their studies immediately after receiving the Bachelor's degree, or after an interval of not more than one year. The average age of these men was about twenty-three.

Table XIV. — Age of Graduate Students recommended for the Degrees of Master of Arts, Master of Science, and Doctor of Philosophy: 1904.*

	19	20	21	22	23	24	25	26	27	28–34	35–39	40 or over	Total.
A.M.'s .	1	3	10	12	16	16	15	4	4	24	5	3	113
S.M.'s .	. .	. .	. .	. .	. .	2	1	. .	. .	. .	. .	. . .	3
Ph.D.'s .	. .	. .	. .	. .	. .	4	4	7	5	22	2	. . .	44

* Men recommended for "as of" degrees are not included.

TABLE XV. — AGE OF GRADUATE STUDENTS RECOMMENDED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY: 1897–1904.

	22	23	24	25	26	27	28 or over	Average age of men 27 or under.	Percentage of men 28 or older.
1897	. .	. .	3	1	4	2	15	25.5	60
1898	1	. .	1	4	2	2	15	25.2	60
1899	1	4	2	3	2	1	8	24.3	38
1900	. .	2	3	4	2	6	18	25.4	51
1901	. .	. .	1	3	5	3	17	25.8	59
1902	. .	1	2	3	4	2	16	25.3	57
1903	. .	. .	2	4	3	3	16	25.6	58
1904	. .	. .	4	4	7	5	24	26.1	55

The "normal" Doctors should be about three years older. A glance at Table XV shows that their average age was actually only a little over twenty-six.

The very large proportion of oldish men — twenty-eight years of age or more — who come up for the Master's degree (fifty-five per cent.) deserves comment. For various reasons, often financial, these men have had to postpone the attainment of their degree to an age when men in other professions have already become well established. Ordinarily, however, much of the intermediate time has been spent in successful teaching. The desire at once for higher attainments in their specialty and for advancement in their profession is the motive that leads these teachers to interrupt their work of teaching, often at a great sacrifice, and to come to the University.

FELLOWSHIPS AND SCHOLARSHIPS.

Recommendations to fellowships and scholarships in the Graduate School are made by the Faculty of Arts and Sciences on the nomination of its Committee on Fellowships and other Aids for Graduate Students.

Ninety-three appointments of this class were held by students in the Graduate School during 1903–04, thirty-three fellowships and sixty scholarships. With the fellowships are included the John Harvard Fellowships without stipend (seven in 1903–04). Fourteen of the fellowships, including three of the John Harvard Fellowships, were held as travelling fellowships by Non-Resident Students, all of whom studied abroad — in Germany (four), in England (three), in France and in Italy (two), in Holland, Greece, and India (one in each). Nineteen of the fellowships, including four of the John Harvard Fellowships, and all the scholarships were held by Resident Students.

In the current year, 1904–05, appointments have been made to twenty-eight fellowships and sixty-six scholarships.

The names of the holders of fellowships for last year and for the current year follow.

1903-04.	**1904-05.**
Harris Fellowship (1868).	
Andrew Runni Anderson. A.B. (*Univ. of Wisconsin*) 1900, PH.D. (Classical Philology) 1903. — Res. Gr. Stud., 1901–03. — Non-Res. Stud., 1903–04. — Thayer Scholar, 1901–02; Shattuck Scholar, 1902–03. — Student of Classical Philology, at Berlin. Instructor in Greek, University of Wisconsin.	**Elijah Swift.** A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903–04. — Shattuck Scholar, 1903–04. Student of Mathematics, at Göttingen.
Rogers Fellowships (1869).	
Harold de Wolf Fuller. *Reappointed.* A.B. (*Adelbert Coll. of Western Reserve Univ., O.*) 1897, A.B. (*Harvard Univ.*) 1898, A.M. (*ibid.*) 1900, PH.D. (English Philology) 1902. — Res. Gr. Stud., 1897–Feb. 1899, and Feb. 1900–02; Non-Res. Stud., 1902–04. — University Scholar, 1900–01; Christopher M. Weld Scholar, 1901–02. — Student of English Philology and Comparative Literature, at Leyden. Instructor in English at this University.	**Chester Noyes Greenough.** (See Edward Austin Fellowships, 1903–04.)
Roland Greene Usher. *Reappointed.* A.B. 1901, A.M. 1902. — Res. Gr. Stud., 1901–02; Non-Res. Stud., 1902–04. — Ricardo Prize Scholar, 1901–02. — Student of History, at Oxford and Cambridge, England. Assistant in History at this University.	**George Randall Lewis.** (See Henry Lee Memorial Fellowship, 1903–04.)
Parker Fellowships (1873).	
William Frederick Boos. A.B. 1894, PH.D. (*Univ. of Heidelberg, Germany*) 1896, M.D. (*Harvard Univ.*) 1901. — Student of Chemistry, at Strasburg. Continuing his studies in Germany.	**Harold Loomis Cleasby.** A.B. (*Trinity Coll., Conn.*) 1899, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902, PH.D. (Classical Philology) 1904. — Res. Gr. Stud., 1901–04. — Christopher M. Weld Scholar, 1903–04. Student of Classical Philology, at Berlin.
Earnest Cary. A.B. (*Gates Coll., Neb.*) 1898, A.B. (*Harvard Univ.*) 1900, A.M. (*ibid.*) 1901, PH.D. (Classical Philology) 1903. — Res. Gr. Stud., 1900–03; Non-Res. Stud., 1903–04. — Thayer Scholar, 1900–01; Shattuck Scholar, 1901–02; Edward Austin Fellow, 1902–03. — Student of Classical Philology, in Germany. Private secretary in Cambridge, Mass.	**Arthur Becket Lamb.** (See Edward Austin Fellowships, 1903–04.)
David Raymond Curtiss. A.B. (*Univ. of California*) 1899, A.M. (*ibid.*) 1901, PH.D. (Mathematics) 1903. — Res. Gr. Stud., 1901–03; Non-Res. Stud., 1903–04. — Shattuck Scholar, 1901–02; Christopher M. Weld Scholar, 1902–03. — Student of Mathematics, at Paris. Instructor in Mathematics, Yale University.	**Truman Michelson.** A.B. 1902, A.M. 1903, PH.D. (Indic Philology) 1904. — Res. Gr. Stud., 1902–04. — George and Martha Derby Scholar, 1902–03; James Savage Scholar, 1903–04. Student of Indic Philology, at Leipsic.

1903-04. **1904-05.**

John Thornton Kirkland Fellowship (1873).

John William Bradshaw.
A.B. (*Univ. of Michigan*) 1900, A.M. (*Harvard Univ.*) 1902, PH.D. (*Univ. of Strasburg, Germany*) 1904. — Res. Gr. Stud., 1900-02; Non-Res. Stud., 1902-04. — Leverett Saltonstall Scholar, 1901-02. — Parker Fellow, 1902-03. — Student of Mathematics, at Strasburg.
Instructor in Mathematics, University of Michigan.

Richmond Laurin Hawkins.
A.B. (*Univ. of Missouri*) 1899, A.M. (*ibid.*) 1900, A.B. (*Harvard Univ.*) 1903.
Student of Romance Philology, in Paris.

James Walker Fellowship (1881).

Ray Madding McConnell.
A.B. (*Southern Univ., Ala.*) 1899, S.T.B. (*Vanderbilt Univ., Tenn.*) 1901, A.M. (*Harvard Univ.*) 1902. — Gr. Div. Stud., 1901-03; Non-Res. Stud., 1903-04. — Student of Philosophy, at Berlin.
Continuing his studies in Paris, as Henry Bromfield Rogers Memorial Fellow.

Arthur Stone Dewing.
A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902-03. — Assistant in Philosophy, 1903-04.
Student of Philosophy, at Munich.

John Tyndall Scholarship (1885).

John L Hogg.
A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1902, PH.D. (Physics) 1904. — Res. Gr. Stud., 1901-04. — University Scholar, 1901-02; Whiting Fellow, 1902-03. — Student of Physics, at this University.
Continuing his studies at this University, as John Tyndall Scholar.

John L Hogg.
Reappointed.

Robert Treat Paine Fellowship (1887).

Edwin DeTurck Bechtel.
A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903-04. — Student of Social Science, at this University.
Continuing his studies in Europe, as Robert Treat Paine Fellow.

Frank Harold Lemont.
A.B. 1903. — Res. Gr. Stud., 1903-04. — Student of Social Science, at this University.
Employed in a bank in Wisconsin.

Edwin DeTurck Bechtel.
Reappointed.

Henry Lee Memorial Fellowship (1889).

George Randall Lewis.
A.B. 1902. — Res. Gr. Stud., 1902-04. — Student of Economics, at this University.
Continuing his studies in London, as Rogers Fellow.

William Hyde Price.
A.B. (*Tufts Coll.*) 1901, A.M. (*ibid.*) 1901, A.M. (*Harvard Univ.*) 1902. — Res. Gr. Stud., 1901-04. — Thayer Scholar, 1902-03.
Student of Economics, in London.

Ozias Goodwin Memorial Fellowship (1889).

Walter Harold Claflin.
A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902-04. — Thayer Scholar, 1902-03. — Student of History, at this University.
Continuing his studies in France.

William Chauncey Rice.
A.B. (*Wesleyan Univ., Conn.*) 1901, A.M. (*Yale Univ., Conn.*) 1902. — Res. Gr. Stud., 1902-04. — Thayer Scholar, 1903-04. — Assistant in Government, 1903-04.
Student of History and Government and Assistant in Government, at this University.

1903-04. **1904-05.**

Henry Bromfield Rogers Memorial Fellowship (1889).

Carleton Ames Wheeler.
A.B. 1899, A.M. 1904. — Res. Gr. Stud., 1903-04. — Student of Philosophy, at this University.
Junior, Harvard Divinity School.

Ray Madding McConnell.
(See James Walker Fellowship, 1903-04.)

Hemenway Fellowship (1891).

(No appointment for 1903-04.)

Vilhjálmur Stefánsson.
A.B. (*State Univ. of Iowa*) 1903. — Special Div. Stud., 1903-04.
Student of Anthropology, at this University.

John Harvard Fellowships (1895).

James Mackintosh Bell.
A.M. (*Queen's Univ., Ont.*) 1899, PH.D. (Geology) 1904. — Res. Gr. Stud., 1902-04. — Student of Geology, at this University.
Geologist to the Government of New Zealand.

Howard Lane Blackwell.
A.B. 1899, A.M. 1900. — Res. Gr. Stud., 1899-1900 and 1901-04. — Student of Physics, at this University.
Continuing his studies at this University.

Francis Reeve Cope, Jr.
A.B. (*Haverford Coll., Pa.*) 1900, A.B. (*Harvard Univ.*) 1901, A.M. (*ibid.*) 1902. — Res. Gr. Stud., 1901-02; Non-Res. Stud., 1902-04. — Robert Treat Paine Fellow, 1902-03. — Student of Social Science, in Europe.
Assistant Secretary, Civil Service Reform Association of Pennsylvania, Philadelphia.

Louis William Flaccus.
A.B. (*Washington and Jefferson Coll., Pa.*) 1900, A.M. (*Harvard Univ.*) 1902, PH.D. (Philosophy) 1904. — Res. Gr. Stud., 1901-04. — Student of Philosophy, at this University.
Honorary Fellow in Philosophy at Clark University.

Conyers Read.
A.B. 1903, A.M. 1904. — Non-Res. Stud., 1903-04. — Student of History, at Oxford.
Continuing his studies at Oxford.

William Henry Roever.
S.B. (*Washington Univ., Mo.*) 1897, A.M. (*Harvard Univ.*) 1904. — Res. Gr. Stud., 1897-98, 1901-02, and 1903-04. — Shattuck Scholar, 1897-98. — Instructor in Mathematics, 1902-03. — Student of Mathematics, at this University.
Continuing his studies at this University, as John Harvard Fellow.

George Wallace Umphrey.
A.B. (*Univ. of Toronto, Ont.*) 1899, A.M. (*Harvard Univ.*) 1901. — Res. Gr. Stud., 1900-01; Non-Res. Stud., 1903-04. — Student of Romance Languages at Paris, and Fellow of the Ministry of Public Instruction of the French Republic.
Continuing his studies at this University, as Edward Austin Fellow.

Robert Bell Michell.
(See Edward Austin Fellowships, 1903-04.)

William Henry Roever.
Reappointed.

Whiting Fellowships (1895).

John Mead Adams.
A.B. 1903. — Res. Gr. Stud., 1903-04. — Student of Physics, at this University.
Second-year Graduate Student and Assistant in Physics, at this University.

Percy Williams Bridgman.
A.B. 1904.
Student of Physics, at this University.

1903-04.

Harvey Nathaniel Davis.
Reappointed.
A.B. (*Brown Univ., R.I.*) 1901, A.M. (*ibid.*) 1902, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902–04. — Student of Physics, at this University.
Continuing his studies at this University, as Whiting Fellow.

Alpheus Wilson Smith.
A.B. (*West Virginia Univ.*) 1900, A.M. (*Harvard Univ.*) 1903. — Res. Gr. Stud., 1902–04. — Student of Physics, at this University.
Continuing his studies at this University, as Whiting Fellow.

1904-05.

Harvey Nathaniel Davis.
Reappointed.

Alpheus Wilson Smith.
Reappointed.

South End House Fellowship (1900).

Albert Benedict Wolfe.
Reappointed.
A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902–04. — Student of Sociology, at this University.
Instructor in History, McKinley High School, St. Louis, Mo.

John Daniels.
A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903–04.
Student of Sociology, at this University.

Charles Eliot Norton Fellowship (1900).

Fritz Sage Darrow.
A.B. 1903, A.M. 1904. — Non-Res. Stud., 1903–04. — Student of Classical Archaeology in Athens.
Continuing his studies at this University.

Chandler Rathfon Post.
A.B. 1904.
Student of Classical Archaeology in Athens.

Edward Austin Fellowships (1900).

Frederic Walton Carpenter.
S.B. (*New York Univ.*) 1899, A.M. (*Harvard Univ.*) 1902, PH.D. (Biology) 1904. — Res. Gr. Stud., 1900–04. — Virginia Barret Gibbs Scholar, 1900–01. — Assistant in Zoölogy, 1901–03. — Student of Zoölogy, at this University.
Instructor in Zoölogy, University of Illinois.

Emerson David Fite.
A.B. (*Yale Univ., Conn.*) 1897. — Res. Gr. Stud., 1901–04. — Townsend Scholar, 1901–02. — Ozias Goodwin Memorial Fellow, 1902–03. — Student of History at this University.
Fourth-year Graduate Student and Austin Teaching Fellow in Government at this University.

Chester Noyes Greenough.
A.B. 1898, A.M. 1899, PH.D. (English Philology) 1904 — Res. Gr. Stud., 1898–99 and 1902–04. — Shattuck Scholar, 1902–03. — Instructor in English, 1901–02. — Student of English, at this University.
Continuing his studies in London, as Rogers Fellow.

Arthur Becket Lamb.
A.B. (*Tufts Coll.*) 1900, A.M. (*ibid.*) 1900, A.M. (*Harvard Univ.*) 1903, PH.D. (*Tufts Coll.*) 1904, PH.D. (Chemistry) 1904. — Res. Gr. Stud., 1902–04. — Student of Chemistry, at this University.
Continuing his studies at Leipsic, as Rogers Fellow.

Maulsby Willett Blackman.
A.B. (*Univ. of Kansas*) 1901, A.M. (*ibid.*) 1902.
Student of Zoölogy, at this University.

Arthur Stanley Pease.
A.B. 1902, A.M. 1903. — Res. Gr. Stud., 1902–04. — Charles Haven Goodwin Scholar, 1902–03.
Student of Classical Philology at this University.

Herbert Thomas Poland.
A.B. 1903, A.M. 1904. — Res. Gr. Stud., 1903–04.
Student of English, at this University.

George Wallace Umphrey.
(See John Harvard Fellowships, 1903–04.)

Travelling Fellowship in Indic Philology (1902–04).

1903–04.	1904–05.
David Brainerd Spooner. *Reappointed.* A.B. (*Leland Stanford Jr. Univ., Cal.*) 1899. — Non-Resident Stud., 1902–04. — Student of Indic Philology, at Benares. Continuing his studies at this University, as Christopher M. Weld Scholar.	

Nelson Robinson Jr. Fellowship (1902).

1903–04.	1904–05.
Leroy Pearl Burnham. S.B. 1902, S.M. 1903. — Res. Gr. Stud., 1902–03; Non-Res. Stud., 1903–04. — Austin Scholar in Architecture, 1902–03. — Student of Architecture, in Europe. Continuing his studies in Europe as Julia Amory Appleton Fellow.	**Charles Robert Wait.** S.B. 1903, S.M. 1904. — Res. Gr. Stud., 1903–04. — Austin Scholar in Architecture, 1903–04. Student of Architecture, in Europe.

Fellowship of the Cercle Français de l'Université Harvard (1903).

1903–04.	1904–05.
Robert Charles Dominique Marie Pierre Dupouey. Agrégé-des-lettres (*Univ. of Paris, France*) 1903. — Res. Gr. Stud., 1903–04. — Student of English, at this University. Instructor in French, University of California.	**Henri Baulig.** Bach.-ès-lettres (*Univ. of Paris, France*) 1895, Lic.-ès-lettres (*ibid.*) 1900. Student of Geography, at this University.

Julia Amory Appleton Fellowship (1904).

1903–04.	1904–05.
	Leroy Pearl Burnham. (See Nelson Robinson Jr. Fellowship, 1903–04.)

The George W. Dillaway Fellowship, with a stipend of two hundred dollars, is not included in this list, since though nominally a fellowship it is in fact of the same rank as the scholarships.

The Faculty regards the fellowships as useful for two distinct classes of students: first, for men who have ordinarily received the Doctor's degree and wish to continue, for a year or two, special studies or researches before taking up their professional work; and secondly, for men of promise, but younger than the former class from an academic point of view, whom the stipend of the fellowship will enable to carry on advanced studies, normally for a higher degree either here or at some other university. Of the thirty-seven fellows in 1903–04, five only appear to belong to the former class; four of these, when they went abroad, held the Harvard degree of Doctor of Philosophy, and the fifth, that of Doctor of Medicine and Doctor of Philosophy (Heidelberg). Of the second class, seven secured the degree of Doctor of Philosophy at the close of the year, all at Harvard, except one who took it at a German university. Of the remaining twenty-one, three only had no Harvard degree, two being Bachelors of Arts of Yale and Leland Stanford respectively, and the third, an Agrégé-des-lettres of Paris. The remaining eighteen had these Harvard degrees: Bachelor of Arts only, three; Master of Arts only, three; Bachelor of Arts and Master of Arts, six; Bachelor of Science and Master of Science, one; the remaining five became Masters of Arts at the close of the year.

Of the thirty-three holders of fellowships in 1903–04, nine are teaching in universities: four here, one each at California, Illinois, Michigan, Wisconsin, and Yale. One is an instructor in a St. Louis High School. One is geologist to the government of New Zealand, two are in secretarial work, one is in a bank. Nineteen of the fellows, besides two of the four who are teaching at Harvard, are continuing their studies, nine of them abroad, of whom six hold travelling fellowships from this University; nine are resident students at this University, five holding fellowships and one a scholarship.

The following table (XVI) gives the usual statistics relative to the applications and appointments for the three successive years 1902–03, 1903–04, and 1904–05: —

TABLE XVI. — FELLOWSHIPS AND SCHOLARSHIPS (1902–05).

1. *Applications and Appointments.*

	1902–03.		1903–04.		1904–05.	
Spring applicants for reappointment or promotion	46		42		51	
Spring applicants for a first appointment	210		202		207	
Later applicants	57	313	60	304	58	316
Appointed to fellowships	21		23		22	
Appointed to scholarships	50		55		59	
Appointed instructors, teaching fellows, or assistants	28	99	23	101	22	103
Deduct for repetitions		4		3		4
		95		98		99
Entered or continued in the Graduate School without receiving any of the above-named appointments	55		62		73	
Entered undergraduate classes of Harvard College	8		0		0	
Entered other Departments of the University	5	68	3	65	2	75
Applicants who were at the University in the year following their applications		163		163		174
Applicants not at the University in that year		150		141		142
		313		304		316

2. *Classification of Applicants and Appointees.*

	1902–03.		1903–04.		1904–05.	
	Applicants.	Appointees.	Applicants.	Appointees.	Applicants.	Appointees.
Students of Philology	115	22	118	24	138	23
Students of Philosophy, History, or Political Science	101	21	100	23	92	29
Students of Mathematics, Physics, and Chemistry	55	17	52	19	51	17
Students of Natural History	34	8	30	9	28	8
Students of other branches, or unclassified	8	3	4	3	7	4
	313	71	304	78	316	81
Students in the Graduate School	80	41	93	41	108	42
Students in Harvard College	35	6	42	16	25	6
Students in other Departments of the University	5	1	7	2	11	5
Former students in some Department of the University	36	5	33	9	23	5
Persons never previously members of the University	157	18	129	10	149	23
	313	71	304	78	316	81
Harvard Bachelors of Arts or Science, not previously graduated elsewhere	23	9	32	16	32	12
Harvard Bachelors of Arts or Science, previously graduated elsewhere	23	9	11	2	13	2
Graduates of other institutions, not Harvard Bachelors of Arts or Science	210	46	204	44	219	56
Undergraduates of Harvard College or Lawrence Scientific School, not already graduated elsewhere	26	7	36	14	28	9
Undergraduates of other institutions and other non-graduates	31	0	21	2	24	2
	313	71	304	78	316	81

Of the applicants in 1904 for appointments to be held in the current year (1904–05), about fifty-five per cent. came to the University or remained in it. Of those who were disappointed, thirty-four per cent. are nevertheless students in the University in 1904–05; last year the proportion was thirty-two per cent.; year before last, thirty-one per cent.

Of the whole number of applicants, one in three was successful, though in a few cases applicants for scholarships or fellowships received instead assistantships or instructorships (including teaching fellowships). As usual, the applicants in philology, philosophy, history, and economics were about three times as numerous as those in science. Of the applicants who received scholarships or fellowships, in philology one in six was successful, in philosophy, history, and economics one in three, in mathematics, physics, and chemistry one in three, and in geology and biology one in four. Of the applicants who had previously been in the School, nearly one-half were successful. Of those who had never been in the University, nearly one in seven was successful. Of applicants who had not been in the School, but were students in Harvard College or had been students in some other department of the University, about one in five was successful. Of Harvard Bachelors of Arts, about one in three was successful, while of the large number that held no first degree from Harvard University, more than one in four were successful. Statistics continue to show that it is an advantage to the applicant to hold the Harvard degree of Bachelor, or to have studied at this University. On the other hand, the large number of appointees outside these classes (in 1904–05, fifty-eight appointments out of two hundred and forty-three applicants of this class) shows that the stranger is by no means discriminated against.

INSTRUCTORSHIPS, TEACHING FELLOWSHIPS, AND ASSISTANTSHIPS.

Several members of the Graduate School, besides carrying on their studies, serve the University as salaried teachers or assistants under the Faculty of Arts and Sciences, by regular appointment of the Corporation. The amount of their work as students varies from a half-course, which is technically one-eighth of full work, to four courses or more. There were in 1903–04 sixty-nine such persons: seven of them were Instructors, fifteen were Austin Teaching Fellows, and forty-seven were Assistants. In the current year there are (in November, 1904) fifty-one such persons: five Instructors, twenty Austin Teaching Fellows, and twenty-six Assistants. Besides these twenty Austin Teaching Fellows, there are three others who are registered as members of the Lawrence Scientific School, one in Harvard College, and six who are not students in the University.

Of the four hundred and twenty-seven members of the School in 1903–04, one hundred and fifty-five — nearly thirty-seven per cent. (as against forty-three per cent. in 1902–03; forty per cent. in 1901–02; and thirty-three per cent. in 1900–01)—received stipends, either as teachers, assistants, fellows, or scholars. Furthermore, other members of the School, as well as some of these, held paid proctorships, parietal or examination.

NEW FELLOWSHIPS AND SCHOLARSHIPS.

One new fellowship and one scholarship for students in the Graduate School were founded in 1903–04.

Julia Amory Appleton Travelling Fellowship in Architecture. — Mr. Charles Follen McKim, of New York, has founded, in the Department of Architecture, in honor of his wife, Julia Amory Appleton McKim, a travelling fellowship, to be called "The Julia Amory Appleton Fellowship in Architecture." The stipend is one thousand dollars. It is expected that the Appleton Fellowship will be offered in alternate years, and that both the Appleton and Robinson Fellowships will ordinarily be tenable for two years.

The Scholarship of the Harvard Club of Louisiana. — This scholarship, with an income of about two hundred and fifty dollars, is maintained for the present by the Harvard Club of Louisiana. It is awarded to a graduate of Tulane University who wishes to pursue advanced non-professional studies at Harvard University. The appointment is made by the President and Faculty of Tulane University.

The Association of American Universities, to the annual meeting of which reference has regularly been made in these reports, met for its fifth annual conference on February 18–20, 1904, at Yale University, President Eliot representing this University. There were papers on "Uniformity of University Statistics," "The Actual and Proper Lines of Distinction between College and University Work," "The Administration, Financial Support and Distribution of University Publications, including Journals and Doctor's Dissertations," and "Are the Degrees of Bachelor of Science, Bachelor of Philosophy, and Bachelor of Letters to be Preserved or to be Merged in the Degree of Bachelor of Arts?"

The Philosophical Faculty of the University of Berlin adopted a regulation, on July 18 of the present year, by which holders of the Bachelor's degree from any American university are regarded as the equivalent of holders of a leaving-certificate from a German gymnasium. It also provided that credit should hereafter be given for graduate work to candidates for the degree of Doctor of Philosophy at Berlin who had pursued suitable studies at either of the universities that constitute this Association. Three semesters, however, of resident study at some German university are required as a minimum. The writer has been asked to act as the organ of communication between the Berlin Faculty and the Association.

The Association now consists of the following fourteen universities: Harvard, Clark, Yale, Columbia, Cornell, Princeton, Pennsylvania, Johns Hopkins, The Catholic University of America, Michigan, Chicago, Wisconsin, California, Leland Stanford Jr.

Within the last three years, the Faculty of Arts and Sciences, on the recommendation of the Administrative Board of the Graduate School and after much discussion, has upon three important matters taken action which at once gives the normal work of Graduate Students a distinctive character, and will improve it in breadth and quality, especially for men in their first year. These measures were, first, the abolition of the degree of Bachelor of Arts in the Graduate School; and, second, the regulations by which men from other colleges are admitted more simply and rationally, though not necessarily more easily, to candidacy for the higher degrees, and by which also the preparation for the degree of Master of Arts for all students is made more consistent, more carefully considered, and is better supervised. The third measure, which was enacted in the current academic year, provides that all work for the degree of Master of Arts must be done by persons registered in the Graduate School or in some other graduate department of the University (the professional schools of Law, Medicine, and Divinity). Undergraduates, however, who have completed, or completed within one course, the requirements for the degree of Bachelor of Arts, but have not yet received the degree, may be admitted to registration in the Graduate School, but only as candidates for the degree of Master of Arts.

The formal opening meeting of the School for the current year (1904–05) was held on Thursday evening, October 6, in the Faculty Room. The principal address was given by Professor Eduard Sievers, of the University of Leipsic, on "Voice Pitch and Cadence as Criteria in Textual Criticism." Briefer addresses were made by President Eliot, Professor Adolf Harnack, of the University of Berlin, Dr. Pierre Janet, of the Collége de France, Professor E. A. Sonnenschein, of the University of Birmingham, and Mr. H. N. Davis, President of the Graduate Club. These were followed by a reception. Besides the speakers from Europe there were present six or seven other professors from foreign universities — Oxford, Copenhagen, Kiel, Leipsic, and Heidelberg. These scholars were visiting in Cambridge, being homeward bound from the International Congress of Arts and Sciences which had been held in September at St. Louis.

JOHN HENRY WRIGHT, *Dean.*

THE DIVINITY SCHOOL.

To the President of the University: —

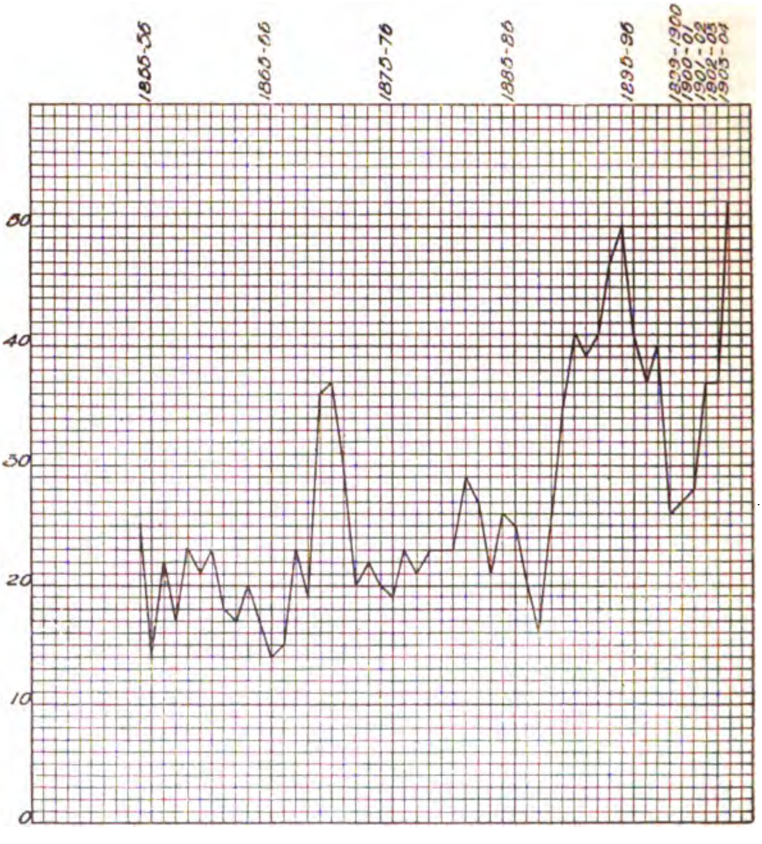
Sir, — I have the honor to present the following report concerning the Divinity School for the year 1903–04.

The year has been marked by a maximum of production in the work of the School. The entire teaching staff has been on duty during the year (eight professors, two assistant professors, two instructors). The courses given have exceeded both in number and variety the list of any previous year.

History of Religions	1½	courses.
Old Testament	9	"
New Testament	5	"
Church History	4	"
Theology	4½	"
Ethics	3	"
Homiletics	3	"
Elocution	1½	"

The number of students registered, though still modest, was the largest in the history of the School; the movement of attendance during the last fifty years being indicated in the following diagram.

This diagram is suggestive of the many vicissitudes which the School has experienced, and the successive problems of administration which it has met. For fourteen years, from 1854 to 1868, its course was even and sluggish, the attendance varying from 25 to 15. In 1869 a sudden freshet occurred through the break-up of a school for ministers in Boston, directed by the Rev. George H. Hepworth. Though the Boston school had required no academic preparation, the Harvard School accepted this overflow, and the numbers rose abruptly to 37. This artificial rise of level could not be long maintained by a University school, and, as soon as this new group had graduated, the School subsided for another ten years to its meagre attendance of from 20 to 29. During these years, however, the Faculty was enlarged and made representative of various communions, new endowment was received, and the intention to create an undenominational school was frankly announced. Conditions seemed favorable for growth, when — as a part of these reforms — the requirement of the A. B. degree, as antecedent to the B. D. degree, was enforced in 1886. This action promptly reduced attendance, and in 1887 the number dropped to 16. The quick reaction from this loss indicated a healthy recognition of the new purposes of the School, and the number rapidly increased to 50 in 1894. At this point another, and still more serious, check to growth was created by the requirement — then unprecedented and still unparalleled in the Theological Schools of this country — of a tuition-fee of $150, as in other departments of the University. The gravity of this step was at once shown by the drop in attendance from 50 in 1894 to 26 in 1898. Once more, however, the reaction has exceeded the loss, and the registration, though still small, has steadily climbed to 52. The whole story encourages the belief that students, such as are here desired, will not be long persuaded to attend a Divinity School by its cheapness, or, on the other hand, long deterred from attendance either by high academic standards or by a fee like that which other professional students pay.



The denominations represented, and the progress of this representation since 1893 are in some degree illustrated by the following table, which takes account of those students only who have become ordained ministers or were already ordained.

	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Unitarian Congregational . . .	6	6	11	7	6	11	7	8	4	9	6	6
Trinitarian Congregational . . .	3	6	7	8	4	4	1	2	3	2	1	4
Methodist Episcopal	2	3	1	3	..	3	..	2	..	2	2	2
Presbyterian	1	1	..	2	2	1	..	2	1	..	..	..
Protestant Episcopal	2	..	..	3	4	..	3	1	..	1	2	1
Baptist	..	..	2	1	1	..	2	1	2	2	1	3
Christian Connection	1	..	1	..	..	..	..	..	..	..	1	..
Lutheran	1	..	..	..	..	..	..	..	..	1	..	..
Methodist Protestant	1	..	..	..	..	..	..	..	..	..	..	..
Disciples	..	..	4	..	..	..	1	1	..	..	..	1
Dutch Reformed	..	..	..	..	1	..	..	..	..	..	..	..
New Church	..	..	..	..	..	..	1	..	..	..	..	..
Free Baptist	..	..	..	..	..	..	..	..	1	..	..	..
Universalist	..	..	..	..	..	..	..	..	..	1	1	..
Reformed Presbyterian	..	..	..	..	..	..	..	..	..	..	1	..

From these facts it may be reasonably inferred that the purpose of the School to offer an undenominational theological training is receiving some degree of recognition and approval. The obstacles to its growth, in the competition of denominational seminaries, the low standard of admission often accepted, the indiscriminate aid offered in many Schools, and the resulting disinclination of liberally educated men to enter the profession of the ministry, make it improbable that this School will have a rapid growth; but the conditions of a useful future are now provided in a body of instruction which commands the respect of the University, and to which many students not registered in the Divinity School resort. This interchange of instruction between the Faculty of Theology and the other Faculties during the year 1903–04 was as follows.

Divinity students taking courses offered only by the Faculty of Arts and Sciences, 1903–04: —

Semitic	5	elections.
Indic Philology	3	"
Greek	1	"
English	1	"
German	1	"
History	1	"
Economics	6	"
Philosophy	13	"
Education	2	"
	33	

Non-Divinity students electing courses offered by the Divinity School, 1903–04 : —

Old Testament	57	elections.
New Testament	13	"
Church History	59	"
History of Religions	108	"
Theology	6	"
Ethics	114	"
	357	"

Divinity Hall has been much improved during the year. The renovation of the Chapel has been completed, and it is now a dignified and beautiful place of worship. Tablets of marble or oak have been set in the walls in memory of Professor Hedge, Professor Thayer, and the Rev. Edmund H. Sears, and to recall the delivery in the Chapel of Ralph Waldo Emerson's Divinity School Address. To these are soon to be added memorials of Dean Everett and Professor Henry Ware, Jr. There has also been added to the equipment of Divinity Hall a modern bathroom with four slate-lined shower baths, and the hallway floors have been in part relaid. These changes, together with the provision of the Common Room for all occupants of the Hall, tennis courts at the rear, and the advantages of the Library and Reading Room, have made Divinity Hall one of the most attractive dormitories in the University. An instructive experiment has been undertaken in reserving the right of occupancy to students approved by the Dean, with a preference given to graduate students and professional students having some sympathy with the purpose of the School, and the result is the creation of a congenial group of mature men, who find in the building a pleasant centre of companionship. It seems not unreasonable that a similar plan, which may give to each dormitory or group of dormitories a certain stamp of interest or sympathy, might be applied to other Schools of the University with success.

An interesting incident of the year assures to the Divinity School the perpetuation of the happy memory and profound influence of Dean Everett. By the will of his daughter, Miss Mildred Everett, it is provided that, after certain life interests are discharged, the residue of her estate shall be held by trustees, who shall apply the income to " the establishment and maintenance of an undenominational Theological Review, to be edited under the direction of the Faculty of the Divinity School," in order to carry out a plan, as the will states, which was suggested by her father. The income at present available of this bequest is insufficient to justify the establishment of a Review, but it is the intention of the Faculty to begin in 1905 a more modest journal of theological inquiry, and the amount which will be finally received will permit the enlargement and perpetuity of a dignified journal. There has also been received from the Trustees of the estate of Mr. Robert C. Billings a gift of $2500, the income of which is to be applied to prizes or a prize to be known as the Billings Prizes for Improvement in Pulpit Delivery. Attention may be also called to the establishment by Harvard University and Simmons College of the School for Social Workers, and to the half-course in Principles of Relief offered by the Director of the School, Dr. Jeffrey R. Brackett. Students of theology interested in the study of philanthropy will appreciate these new resources of instruction.

The fifty-two students enrolled in the year 1903–04 were distributed as follows: —

Resident Graduates	14
Senior Class	8
Middle Class	4
Junior Class	10
Special Students	16
Total	52

Thirty-one colleges were represented as follows: —

Antioch College	1
Boston University	3
Bowdoin College	1
Brown University	5
Chicago University	1
Colby College	1
Dartmouth College	1
Earlham College	1
Franklin and Marshall College	2
Harvard University	14
Highland University	1
Hiram College	1
Hobart College	3
Indiana University	1
Iowa State Normal School	1
Iowa State University	2
Kansas City University	1
Kentucky University	1
University of Michigan	2
Mount Allison University	1
Mount Union College	1
Ohio Wesleyan University	1
Penn College	1
University of Pennsylvania	1
St. Stephen's College	1
Taylor University	1
Trinity College	1
Union College	1
Victoria University	1
Waynesburg College	1
University of Wisconsin	1
	55
Counted more than once	7
	48

Thirteen theological seminaries were represented as follows: —

College of the Bible, Ky.	2
Boston University	3
Concordia Theological Seminary	1
Crozer Theological Seminary	1
Episcopal Theological School, Cambridge	2
Harvard University	1
Kwansei-Gakuin	1
Newton Theological Institution	1
Nisky Moravian Theological Seminary	1
Oberlin College	1
Reformed Theological Seminary, Lancaster, Pa.	2
Union Theological Seminary	1
Yale University	1
	18
Counted more than once	2
	16

Seven members of the School were recommended for the degree of S. T. B., and ten received the degree of A. M.

The sixth session of the Summer School of Theology was held from July 5 to July 21. The School, unlike the programmes of earlier sessions, was directed wholly by our own Faculty, and was designed to present what may be called a cross-section through the body of theological instruction, each professor selecting some aspect of his special work which might seem of peculiar interest. Three courses of ten lectures each were given by Professors Toy, G. F. Moore, and Emerton; and the entire Faculty, with the exception of Professor Ropes who was absent in Europe, contributed to the series of forty-five lectures. Though the attendance was smaller than in preceding years, the general interest in the School was keen, and a committee was appointed by the members of the School to secure its continuance and promote its interests. The six sessions of the School have had the following record of attendance: —

	Men.	Women.	Total.
1899	96	9	105
1900	52	2	54
1901	84	5	89
1902	74	4	78
1903	54	4	58
1904	46	1	47

The distribution by denomination, in the case of ministers attending in the six years, was as follows: —

	Orthodox Congregational.	Unitarian Congregational.	Episcopalian.	Universalist.	Baptist.	Presbyterian.	Disciples.	Methodist.	Free Baptist.	Lutheran.	Christian Connection.	German Reformed.	Moravian.	Evangelical Association.
1899 . .	27	17	16	14	5	3	..	..	..	..	..	..	..	..
1900 . .	17	6	3	14	6	..	3	3	..	..	..	..	..	..
1901 . .	28	12	11	14	5	2	..	10	1	1	..	..	..	..
1902 . .	28	7	15	3	5	1	1	8	1	1	..	..	..	..
1903 . .	21	4	10	5	..	5	3	1	1	..	1	1	1	..
1904 . .	13	6	11	1	7	1	..	3	1	..	1	..	..	1

The following is a list of the Courses of Instruction offered in the School in the year 1903–04. With each course is a statement of the number of students electing it from the Divinity School, the Graduate School, and from the College. There is appended to the list of regular courses a list of the lectures of the Summer School. Almost all of the students enrolled in the Summer School attended all its courses.

COURSES OF INSTRUCTION.

INTRODUCTION TO THE STUDY OF THEOLOGY.

Professor G. F. Moore. — Eight lectures (*first half-year*). (Not counted for a degree.) 6 Div.

OLD TESTAMENT.

1. Professor Lyon. — Hebrew. Davidson's Introductory Hebrew Grammar. Explanation of parts of Genesis and of the Psalm-book. 4 Div., 4 Col.

2. Professor Toy. — Hebrew (second course). — Syntax. Interpretation of parts of the Prophets and the Poetical Books. Text-criticism. 2 Div., 1 Gr., 1 Col.

3. Dr. Haynes. — Classical Aramaic (second course). Rödiger's Chrestomathia Syriaca (ed. 3). The Peshitto. Nöldeke's Syrische Grammatik (ed. 2). 3 Div.

4. Professor Lyon. — History of Israel, political and social, till the capture of Jerusalem by the Romans. Text-books, lectures, and theses. 5 Div., 35 Col.

5. Professor G. F. Moore. — History of pre-Christian Hebrew Literature. 1 Div., 2 Gr., 6 Col.

6. Professor Toy. — History of the Hebrew Religion, with comparison of other Semitic religions. 3 Div., 2 Gr., 3 Col.

7. Dr. **Haynes.** — Assyrian. 1 Div., 1 Col.

8. Professor **Lyon.** — Assyrian (second course). 1 Div., 1 Gr., 1 Col.

20. Research courses. The instructors will arrange and supervise for any properly prepared student a line of special study on such topic as may be agreed on. 2 Div.

NEW TESTAMENT.

2. Professor **Ropes.** — Introduction to the Study of the New Testament. — *First half-year:* The origin and early history of the New Testament writings. *Second half-year:* The teaching of Jesus Christ, and the theological and ethical ideas of the New Testament Writers. 9 Div., 10 Col.

3. Professor **Ropes.** — The Gospels of Matthew, Mark, and Luke. 3 Div., 1 Gr.

13. Professor **Ropes.** — The Apocalyptic Literature, with special study of the Revelation of John. 2 Div., 2 Gr.

14 ¹*hf.* Professor E. C. **Moore.** — The Origin and Growth of the New Testament Canon in its relation to the rise of the Catholic Church and the beginnings of the history of the Dogma. *Half-course.* 3 Div.

15 ²*hf.* Professor **Fenn.** — The Theological Method of Jesus and Paul. *Half-course.* 5 Div.

20. Professor **Ropes.** — Advanced study and research. The instructor will arrange and supervise special work of competent advanced students on such topics of New Testament study as they may desire to undertake. 1 Div.

CHURCH HISTORY.

1. Professor **Emerton.** — General Church History to the End of the Seventeenth Century. 6 Div., 3 Gr., 3 Col.

2*a* ¹*hf.* Professor **Emerton.** — The Formation of the Catholic Church. *Half-course.* 4 Div., 2 Gr., 11 Col.

2*b* ²*hf.* Professor **Emerton.** — The Roman Papacy and the Holy Roman Empire in the Middle Ages. *Half-course.* 2 Div., 4 Gr., 33 Col.

4 ²*hf.* Professor E. C. **Moore.** — The Church since the Reformation. *Half-course.* 5 Div., 3 Col.

6 *hf.* Professor **Emerton.** — Selected Topics from the Canon Law. *Half-course.*

20. Professor **Emerton.** — Advanced study and research.

HISTORY OF RELIGIONS.

1 ¹*hf.* Professor G. F. **Moore.** — Introduction to the Study of Religions. *Half-course.* 9 Div., 2 Gr., 12 Col.

2. Professor G. F. **Moore.** — History of Religions in Outline. 9 Div., 2 Gr., 92 Col.

THEOLOGY.

1. Professor FENN. — Theism. 5 Div.

2. Professor FENN. — Outlines of Systematic Theology. 3 Div.

3 ²hf. Professor FENN. — New England Theology. *Half-course.* 3 Div.

4 ¹hf. Professor FENN. — Typical Systems of Christian Theology. *Half-course.* 1 Div.

6. Professor E. C. MOORE. — The History of Christian Thought since Kant, including a discussion of the present state and tendencies of theological thought. 13 Div., 2 Gr., 4 Col.

ETHICS.

1. Professor PEABODY. — Introductory Course. The Ethics of the Social Questions. — The modern social questions: Charity, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory. — Lectures, special researches, and required reading. 4 Div., 3 Gr., 107 Col.

20*a*. Professor PEABODY. — Ethical Seminary. Subject for the year: The Ethics of the New Testament. 18 Div., 3 Gr., 1 Col.

20*b*. Professor PEABODY. — Seminary in the Ethics of the Social Questions. The instructor will direct the special research of competent students in the ethics of the social questions. 3 Gr., 1 Rad.

HOMILETICS AND PASTORAL CARE.

1 *hf.* Asst. Professor HALE. — The Structure and Analysis of Sermons. *Half-course.* 8 Div.

2. Professors PEABODY, E. C. MOORE, and FENN, and Asst. Professor HALE. — Each student prepares eight sermons during the year, of which some are preached before the class and criticized by students and instructor [in Appleton Chapel], and the rest are criticized by the instructor privately. Students in this course should already have taken Homiletics 1 or its equivalent. The course may be taken twice. 9 Div.

3 ²hf. Asst. Professor HALE. — The Minister as Pastor, and the Direction of Church Activities. *Half-course.* 7 Div.

4 ¹hf. Professor PEABODY. — The Minister as Preacher, and the History of Christian Preaching. *Half-course.* 4 Div.

5 ¹hf. Asst. Professor HALE. — The Homiletical Use of the Bible. *Half-course.* 1 Div.

ELOCUTION.

1. Mr. WILLARD. — Voice Training, and Practice in the Elements of Oral Expression. Preparatory to Course 2 or parallel with it. (Not counted for a degree.) 8 Div.

2 *hf.* Asst. Professor WINTER. — Sermon Delivery, Scripture Reading, Oral Discussion. *Half-course.* 5 Div.

SUMMER SCHOOL OF THEOLOGY.

Professor C. H. Toy. — Ten lectures: The Development of Monotheism: — (1) Theory of a primitive revelation. Supposed traces of monotheistic belief among savages. (2) General lines of movement toward monotheism. (3) Egypt. China. Japan. (4) Brahmanism. Brahmo Somaj. Buddhism. Babism. (5) Greece. (6) Rome. (7) Persia. The Parsees. (8) Babylonia. Arabia. The Hebrews. (9) Christianity. Islam. (10) Religious value of the monotheistic idea. Modern doubts.

Professor D. G. Lyon. — Three lectures: Babylon and Israel.

Professor G. F. Moore. — Ten lectures: Judaism and the Beginning of Christianity.

Professor Ephraim Emerton. — Ten lectures: The Development of Reformation Thought: — (1) John Wiclif: The Theory of "*Dominium*." (2) John Hus: The Doctrine of the *Lex Christi* and of the True Church. (3) The Great Schism and the Councils — 1378–1448. The Principle of Executive Authority. (4) The Papacy — 1450–1517. Adjustment through Enlightenment and by Concordats. (5) The Mystical School — The Spiritual Interpretation of Tradition. (6) Erasmus: The Reformation by Learning. (7) Luther: The Doctrine of Personal Responsibility. (8) The Anabaptists: The Idea of a Continuing Revelation. (9) Zwingli: Anti-Sacramentarianism. (10) Calvin: The Christian State.

Professor W. W. Fenn. — Three lectures: The Development of Calvinism in New England.

Professor E. C. Moore. — Six lectures: Personal Influences on Theology in the Nineteenth Century: — (1) Schleiermacher and Ritschl: Constructive Theology. (2) Baur and Harnack: Historical Criticism. (3) Newman and Martineau: The Emphasis upon the Church and the Individual: Two Aspects of Authority. (4) Comte and Spencer: The Natural and Social Sciences. (5) Arnold and Browning: Literature, Critical and Creative. (6) Bushnell and Brooks: The Preacher's Contribution.

Professor F. G. Peabody. — Three lectures: The Ethical Teaching of Jesus Christ: — (1) The Growth of the Christian Character. (2) The Personal Consequences of the Christian Character. (3) The Social Consequences of the Christian Character.

Professors F. G. Peabody, E. C. Moore, E. Hale, and W. W. Fenn. — Instruction in Homiletics.

There were added to the Library 535 volumes and 17 pamphlets by purchase, 103 volumes and 112 pamphlets by gift. October 1, 1904, there were in the Library 33,867 volumes and 8,976 pamphlets. During the year 683 titles were catalogued in the author catalogue and 90 titles in the subject catalogue. There were borrowed from the stack for home use 1,104 volumes, from the stack for hall use 549 volumes, from the reserved books for over-night use 623 volumes.

FRANCIS G. PEABODY, *Dean*.

THE LAW SCHOOL.

To the President of the University: —

Sir, — I have the honor of presenting my report upon the Law School for the academic year 1903–04.

The table on pages 178, 179 gives the courses of study and instruction during the year, the text-books used, the number of

Year.	Whole No. of Students.	Total of College Graduates.	Harvard Graduates.	Graduates of other Colleges.	Non-Graduates.	Per cent. of College Graduates.	No. of Colleges represented.
1870–71	165	77	27	50	88	47	27
1871–72	138	70	34	36	68	51	25
1872–73	117	66	34	32	51	56	25
1873–74	141	86	49	37	55	61	25
1874–75	144	82	63	19	62	57	18
1875–76	173	93	60	33	80	54	25
1876–77	199	116	74	42	83	58	30
1877–78	196	121	80	41	75	62	30
1878–79	169	109	71	38	60	64	24
1879–80	177	118	90	28	59	66	20
1880–81	161	112	82	30	49	70	19
1881–82	161	99	66	33	62	61	22
1882–83	138	93	58	35	45	67	32
1883–84	150	105	75	30	45	70	25
1884–85	156	122	85	37	34	78	31
1885–86	158	122	83	39	36	77	29
1886–87	188	143	88	55	45	76	34
1887–88	225	158	102	56	67	70	32
1888–89	225	158	105	53	67	70	32
1889–90	262	189	122	67	73	72	41
1890–91	285	200	135	65	85	70	33
1891–92	370	257	140	117	113	69	48
1892–93	405	266	132	134	139	66	54
1893–94	367	279	129	150	88	76	56
1894–95	413	310	139	171	103	75	74
1895–96	475	380	171	209	95	80	82
1896–97	490	408	186	222	82	83	82
1897–98	551	490	229	261	61	89	77
1898–99	564	503	212	291	61	89	78
1899–00	613	557	236	321	56	91	67
1900–01	655	605	252	353	50	92	83
1901–02	633	584	247	337	49	92	92
1902–03	644	600	241	359	44	93	94
1903–04	743	694	272	423	48	94	111
1904–05	762	707	286	421	55	93	114

Instructors.	Studies and Text-books.	Exercises per week.	Number of students examined.
	First Year.		
Prof. Williston Asst. Prof. Wyman	Contracts. Williston's Cases on Contracts	3	301
Prof. Wambaugh	Property. Gray's Cases on Property, vols. 1, 2	2	314
Prof. Smith	Torts. Cases on Torts: Ames, vol. 1 (2d ed.), Smith, vol. 2	2	303
Prof. Beale. Mr. Peabody	Criminal Law and Procedure. Beale's Cases on Criminal Law	2	294
Prof. Ames	Civil Procedure at Common Law. Ames's Cases on Pleading	1	307
	Second Year.		
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	35
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	36
Prof. Gray	Evidence. Thayer's Cases on Evidence (2d ed.)	2	206
Prof. Ames	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction, vol. 1	2	210
Prof. Beale	Property. Gray's Cases on Property, vols. 3, 4	2	205
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	172
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	207
Mr. Green	Admiralty. Ames's Cases on Admiralty	1	1
Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	7
Asst. Prof. Wyman	Carriers. Beale and Wyman's Cases on Public Service Companies	1	12
Prof. Brannan	Damages. Beale's Cases on Damages	1	4
Prof. Smith	Persons. Smith's Cases on Persons	1	4

Third Year.

Prof. Beale	Conflict of Laws. Beale's Cases on the Conflict of Laws	2	146
Prof. Gray	Constitutional Law. Thayer's Cases on Constitutional Law	2	103
Prof. Smith	Corporations. Smith's Cases on Private Corporations (2d ed.). Smith's Cases on Municipal Corporations	2	194
Prof. Brannan	Partnership. Ames's Cases on Partnership	2	30
Prof. Gray	Property. Gray's Cases on Property, vols. 5, 6	2	58
Asst. Prof. Wyman	Suretyship and Mortgage. Ames's Cases on Suretyship. Wyman's Cases on Mortgage	2	157
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	17
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	88
Prof. Gray	Evidence. Thayer's Cases on Evidence	2	17
Prof. Ames	Jurisdiction and Procedure in Equity. Ames's Cases in Equity Jurisdiction, vol. 1	2	10
Prof. Beale	Property II. Gray's Cases on Property, vols. 3, 4	2	2
Prof. Williston	Sales of Personal Property. Williston's Cases on Sales	2	14
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	11
Mr. Green	Admiralty. Ames's Cases on Admiralty	1	18
Prof. Williston	Bankruptcy. Williston's Cases on Bankruptcy	1	73
Asst. Prof. Wyman.	Carriers. Beale and Wyman's Cases on Public Service Companies	1	81
Prof. Brannan	Damages. Beale's Cases on Damages	1	13
Mr. Donham	Equity III. Ames's Cases in Equity Jurisdiction, vol. 2	1	89
Prof. Wambaugh	Insurance. Wambaugh's Cases on Insurance	1	28
Prof. Smith	Persons. Smith's Cases on Persons	1	17

exercises per week in each course, and the number of students who offered themselves for examination in each course at the end of the year.

During the twelve months from October 1, 1903, to October 1, 1904, 6,061 bound volumes and 1,853 pamphlets were added to the library. The library contained, October 1, 1904, about 81,800 volumes and 8,750 pamphlets.

The collection of portraits of judges and lawyers has been increased, during the past year, by 2 portraits in oils, 27 engravings, 4 etchings, 39 photographs, 1 water-color, 1 pencil sketch, and 17 lithographs. The two oil portraits, one of the late Professor Thayer, the other of Professor Ames, and both painted by Mr. Wilton Lockwood, were peculiarly acceptable as the gift in the one case of Professor Thayer's pupils, and in the other, of the students in the School during the year 1902–03. The portraits now hanging on the walls of Austin Hall number 388, namely, 23 oil paintings, 247 engravings, 21 etchings, 72 photographs, 1 water-color, 2 pencil sketches, 19 lithographs, and 3 bas-reliefs. There are also 34 trial scenes and views of law buildings.

The table on page 177 exhibits the growth of the School during the last thirty-five years, in the number of students, the number and percentage of college graduates, and in the number of colleges represented by their graduates. The figures for the current year will be slightly increased by later entries.

The number of non-graduates, 55, is somewhat misleading. Forty-five of these are Harvard College Seniors, on leave of absence and registered in the Law School, of whom 36 have completed the work for the degree of A.B., and 9 lack only one or one and one-half courses, or are deficient in college admission requirements. If these 45 seniors be transferred to the College Graduate column, we have 752 graduates, and the percentage of college graduates rises from 93 to 99.

The book-stack in Austin Hall has room for 60,000 volumes, or less than three-quarters of our 83,000 books. 23,000 volumes are shelved in the annex of Lawrence Hall, to the inconvenience of the reader and at the disquieting risk of the destruction of the books. Furthermore, the library is growing at the rate of more than 5,000 volumes a year. The lecture rooms are too few. The reading room, having only 240 seats, is suited to the needs of a school of not more than 400 students, or about three-fifths of those now in the School. There are only seven professors' rooms for eleven professors. The administration room is overcrowded, and there is no cataloguing room. In a word, the School has completely outgrown Austin Hall.

The inadequacy of the stack, the lecture rooms and professors' rooms, and of the administration and cataloguing accommodations, however inconvenient, may be endured for a time without serious detriment to the students. But the insufficient accommodations of the reading room are a serious menace to the effectiveness of the School.

When the students numbered 400 or less, a large majority of them did the greater part of their work in Austin Hall. They were always sure of finding a seat at a table, and in very many cases, by the operation of a sort of common law of their own, the same seat throughout the year. Being within easy reach of all the books they formed the habit of consulting freely the authorities, and gained a familiarity with the reports and treatises not to be obtained in any other way.

To-day the students, as a rule, do the greater part of their work in their own rooms. Many would prefer to work in Austin Hall, but the small seating accommodation makes it impossible to count upon obtaining a place at a table, and many students abandon the attempt to get one. In the opinion of all the members of the Law Faculty a return to the former practice of making the reading room the chief place of work of the students is imperatively demanded, if the School is to maintain its high standard of efficiency. Steps should be taken at once to enlarge Austin Hall, or, if that is impracticable, to build a new home for the School, and in the new building the reading room or rooms should have the capacity of seating at one time at least two-thirds of the students, and admit of expansion with the growth of the School.

JAMES BARR AMES, *Dean.*

THE FACULTY OF MEDICINE.

To the President of the University: —

Sir, — As Dean of the Faculty of Medicine I have the honor to submit the following report for the academic year 1903–04.

The standard of admission to the Dental School being different from that of the Medical School, the Faculty decided that hereafter special courses in first-year subjects and in second-year Bacteriology should be given to the dental students.

Heretofore students in the Medical School have been allowed one week in which to register and to make, in the fourth year, their choice of electives. In order that the systematized work of the School may begin more promptly, all students are now required to register on the first day of the term, and to make their choice of electives within the first three days.

By a vote of the Faculty, Legal Medicine will no longer remain as a separate required study, but the heads of departments will provide in the required courses of study instruction in the medico-legal aspects of their particular subjects, and a member of the legal profession will give a voluntary course of lectures to the fourth class on the relation of the medical profession to the law and the courts.

During the past year the Joseph Pearson Oliver Scholarship, with an income of three hundred and twenty-five dollars, was founded by the patients of the late Joseph Pearson Oliver, M.D. The four Faculty Scholarships, of two hundred dollars each, which were established in 1875, were withdrawn at the close of the year.

It was decided to open the graduate courses to such undergraduates as are competent in the opinion of the Dean to pursue them; and to put the graduate and summer courses in charge of one committee.

The Corporation having decided to confer degrees in the middle of the year, as well as at the regular Commencement, students who had been prevented from graduating in June by some failure in passing the required examinations, and who had in September made up such failures, were enabled to receive their degrees in February, instead of waiting, as heretofore, until June.

During the year 158 men were recommended to the Corporation for degrees as follows: —

Medical School	For the degree of M.D. (February)	11
	" " " (June)	95
	" " " *cum laude* (June)	27
Dental School	For the degree of D.M.D. (February)	1
	" " " (June)	19
	" " " *cum laude* (June)	5
	Total	158

The Committee on the Course of Study and the Committee on Medical Education, acting as a joint committee, have continued their meetings throughout the year for the purpose of perfecting the plans for the elective fourth year which goes into effect in the autumn of 1905.

WILLIAM L. RICHARDSON, *Dean.*

THE MEDICAL SCHOOL.

To the President of the University: —

Sir, — As Dean of the Medical School I have the honor to submit the following report for the academic year 1903–04.

The Administrative Board was constituted as follows: Drs. W. L. Richardson, J. C. Warren, E. S. Wood, F. C. Shattuck, W. F. Whitney, C. M. Green, C. Harrington, F. B. Mallory, and W. B. Cannon.

In March, Medical Director R. A. Marmion, U. S. N., President of the Faculty of the Naval Medical School and President of the Naval Medical Examining Board, gave an address to the students on "The Naval Medical Service as it now is, and the inducements which it holds out to young medical men."

In April, Geheimrath Professor Paul Ehrlich, of Frankfort, gave an address on "Pharmacology and Experimental Therapeutics."

Building. — No essential changes have been made in the building during the past year. Only absolutely necessary repairs were made during the summer, so that the expenditures in that line were much less than in former years.

Anatomy. — One of the most agreeable experiences of the staff has been the receipt of an unusually large number of applications for information, or for the opportunity to make observations on anatomical points, so that the department has been of service to many beside those connected with it.

The Anatomical Research Fund has been of great use. Not only has the expense of several papers been met in whole or in part, but a series of drawings of anomalies observed in the dissecting room have been begun. The Fund has also been used for the preparation of a card catalogue of anatomical literature, which has been made during the past summer under the constant supervision of the Professor. It includes some 3500 titles of anatomical papers, mostly in Journals.

The search for variations has been continued, and the collections in the Museum illustrating the range of variation have been extended. A considerable number of specimens were sent to the World's Fair at St. Louis, including the entire set exhibiting the range of variation of the human shoulder-blade, and several tablets bearing bones to illustrate the progress of ossification of bones at known ages.

The following papers were published from October 1, 1903, to September 30, 1904: —

An hour-glass stomach observed in situ. By Professor THOMAS DWIGHT. *American Journal of the Medical Sciences*, October, 1903.

A separate subcapitatum in both hands. By Professor THOMAS DWIGHT. *Anatomischer Anzeiger*, Bd. XXIV, 1903.

A bony supracondyloid foramen in man, with remarks about supracondyloid and other processes from the lower end of the humerus. By Professor THOMAS DWIGHT. *American Journal of Anatomy*, Vol. III, No. 3, July, 1904.

The diagnosis of anatomical anomalies causing malposition of the head and distortion of the face. By Professor THOMAS DWIGHT. *The Journal of Medical Research*, Vol. XII, No. 1, July, 1904.

The tonsil at birth. By Dr. H. P. MOSHER. *The Laryngoscope*, St. Louis, November, 1903.

A contribution to the mechanics of the spine. By Dr. R. W. LOVETT. *American Journal of Anatomy*, Vol. II, No. 4, 1903.

The anatomy and surgery of the internal derangements of the knee-joint. By Dr. BENJAMIN TENNEY. *Annals of Surgery*, July, 1904.

(It may be mentioned that the papers on a separate subcapitatum and a supracondyloid foramen in man treat of unique observations.)

Physiology. — There have been published the following papers containing investigations by the laboratory staff: —

The conditions of the vasoconstrictor neurons in "shock." By Associate Professor W. T. PORTER and Dr. W. C. QUINBY. *The American Journal of Physiology*, Vol. X, pp. 12–13.

On coördination of the ventricles of the heart. By Associate Professor W. T. PORTER, for Messrs. C. FROTHINGHAM, Jr., and W. E. LADD. *The American Journal of Physiology*, Vol. X, pp. 16–17.

The passage of different food-stuffs from the stomach. By Assistant Professor W. B. CANNON. *The American Journal of Physiology*, Vol. X, pp. 17–19.

The emptying of the human stomach. By Assistant Professor W. B. CANNON. *The American Journal of Physiology*, Vol. X, p. 19.

An improved kymograph; a respiration scheme; and a "muscle warmer." By Associate Professor W. T. PORTER. *The American Journal of Physiology*, Vol. X, pp. 39–43.

Further contributions to muscle tonus. By Dr. T. A. STOREY and Associate Professor W. T. PORTER. *The American Journal of Physiology*, Vol. X, p. 44.

Tonus rhythms in normal human muscle and in the gastrocnemius of the cat. By Dr. T. A. STOREY. *The American Journal of Physiology*, Vol. XII, pp. 75–84.

The following have also been published: —

Physiology at Harvard. By Associate Professor W. T. PORTER. Third edition. The University Press, Cambridge, Mass., 1904, pp. 117.

Additional experiments for students in the Harvard Medical School. By Associate Professor W. T. PORTER. The University Press, Cambridge, Mass., 1904, pp. 31.

Messrs. J. B. Ayer and D. Gregg have studied the effect of tonus changes on conduction. Assistant Professor Cannon and Drs. Blake and Scudder have continued their work on the surgical problems of the alimentary canal, and Assistant Professor Cannon has finished his investigations on the passage of food-stuffs from the stomach through the small intestine. Assistant Professor Cannon attended the meeting at Cambridge, England, of the British Association for the Advancement of Science, and delivered an address before the English Physiological Society on "The passage of different food-stuffs through the alimentary canal." At the International Congress of Physiologists, held in Brussels, Assistant Professor Cannon gave a demonstration of "The movements of the stomach and intestines," both by zoetrope and by X-rays.

Associate Professor Porter, together with Drs. T. A. Storey and F. H. Lamb, is continuing his studies in the physiology of muscle and the circulation. Assistant Professor Cannon is at present investigating the mechanism of the pylorus. Mr. C. R. Metcalf has been working on the effect of certain external physical changes on digestion. Dr. S. S. Maxwell is studying ciliary activity.

Histology and Embryology. — Many minor improvements were introduced into the course for the first-year students, and a trial was made of a system of coöperation between the anatomical and histological departments in class instruction. The success of this trial has induced the two departments to unite still more closely, so that the coming year the students will study in the histological laboratory the gross anatomy of each organ immediately before their study of its microscopic structure. The new plan is expected to prove of great benefit to the students.

The embryological collection has been increased by 124 new series of sections of embryos, which brings up the total number of series to 820. Especially noteworthy are the series of Torpedo ocellata, 68 in number, and the 19 series from human embryos, which are, for the most part, very good, while three are of exceptional value.

Professor Minot has begun the final manuscript of a work on "Growth, Age, and Death," for which materials have been gathered during twenty years. Professor G. C. Price, of the Leland Stanford Jr. University, completed in the laboratory a research on the excretory organs of myxine. Professor McClure, of Princeton, used the collection for part of his researches on veins. Dr. J. L. Bremer began an investigation of the anatomy of a human embryo of 4 millimeters. Dr. E. Taylor completed his work on the development of the rabbit, for Professor Keibel's Normentafeln, except the compilation of the bibliography, which has been begun. Dr. F. T. Lewis has published the following papers: —

The intra-embryonic blood vessels of rabbits from 8½ to 13 days. *Proceedings of the Association of American Anatomy*, pp. 12–13; in *American Journal of Anatomy*, Vol. 3, No. 1, 1904.

The shape of mammalian red blood corpuscles. *Journal of Medical Research*, pp. 513–517, Vol. 10, 1904.

The question of sinusoids. *Anatomischer Anzeiger*, pp. 261–279, Bd. XXV, 1904.

In order that the unique and valuable collection of embryos should be fairly utilized for original research, technical assistance is required for cataloguing, drawing, and especially making models by Born's method. Such an assistant would cost from twelve to fifteen hundred dollars a year. As the School is without funds available for such a purpose, a special gift seems the only hope. Such a gift would aid embryological research to an extent out of all proportion to its amount.

Bacteriology. — Very extensive additions have been made to a card catalogue of the literature of Bacteriology, which was begun in the fall of 1903. During the intervening time about six thousand cards have been written and cross-indexed, and at the same rate it is likely that in a short time there will be a fairly complete catalogue of the subject available for reference. It has already proved of much value to the workers in the department. Extensive additions have also been made to the collection of lantern slides, and progress has been made on a collection of large sized photographs of bacteriological subjects. The latter work has largely been carried on by Dr. S. B. Wolbach.

Professor H. C. Ernst gave a course of Lowell Institute Lectures, in January, 1904, on "Bacteriology in modern medicine." He delivered an address on "Animal Experimentation" before the medical section of The American Social Science Association in May: published in the Journal of that Association for September, 1904, and shortly to appear in *The Educational Review* (Columbia University).

He also delivered the annual address to the Massachusetts Medical Society, in June, on "Some recent fermentations in Medical Education": published in the Transactions of the Society for 1904, and in the *Boston Medical and Surgical Journal* for July, 1904. He prepared a communication on "Research Work in the Harvard Medical School," which was presented at the meeting of The American Medical Association in June: published in the Journal of that Association for July, 1904.

In connection with Professor Ernst, Dr. S. B. Wolbach carried on studies on the different races of the tubercle bacillus and the action of various tuberculins, published as follows: —

Observations on the morphology of bacillus tuberculosis from human and bovine sources, with ten plates. *The Journal of Medical Research*, Vol. X, No. 3, December, 1903.

Experiments with tuberculins made from human and bovine tubercle bacilli. *The Journal of Medical Research*, Vol. XII, No. 3, October, 1904.

Dr. N. L. Berry, Jr., made a study of bacterium pyogenes sanguinarium. *The Journal of Medical Research*, Vol. X, No. 3, December, 1903.

Mr. E. H. Burnett carried on studies on possible agglutinating properties of the tubercle bacillus. Results are not ready for publication.

Dr. L. Frothingham has carried on during the year a continuation of his studies on the etiology of epithelioma contagiosum of birds. The results of this work are slow in becoming conclusive. He has also carried on studies of a somewhat extensive nature on "Pseudo-glanders bacilli."

Dr. C. G. Page made a large number of tests to determine the relative value of different methods of sterilizing catgut, and also studied in detail, in connection with Dr. Frothingham, a number of organisms that on potato culture resemble more or less closely the glanders bacilli.

Dr. J. H. Pratt, with a number of assistants, carried on an extensive series of experiments, with a view to determining the clinical value of blood-cultures in the diagnosis of typhoid fever.

Physiological and Pathological Chemistry. — The instruction to first-year students has remained the same as last year, the new arrangement adopted by the Faculty three years ago still being followed. It is impossible to judge of the success or non-success of the plan until the first class starting under the new system shall have reached its fourth, or elective year, and several other classes have followed. A thorough test of the work, both in the first year and the elective fourth year, will then have been made, and a proper estimate can be formed as to the success of the new arrangement, so far as the chemical teaching is concerned.

On account of the smaller classes the north portion of the laboratory has been found sufficient to accommodate the students of the first year. The south portion has, therefore, been changed somewhat, to adapt it for advanced and research work on Physiological and Pathological Chemistry.

Dr. R. L. Emerson, with Dr. R. Amory, has edited the second volume of the 5th edition of Wharton and Stille's *Medical Jurisprudence*, which is about to be published.

Dr. C. L. Alsberg has published in the *Archiv für experimentelle Pathologie und Pharmakologie*, May, 1904, an article entitled "Beiträge zur Kenntniss der Nukleinsäure."

Dr. Emerson is continuing his work on albumosuria, and is also investigating a more exact method for the determination of arsenic and lead in the urine.

Dr. Alsberg is conducting investigations upon sulphur metabolism and its relation to the bile acids.

Experimental Pharmacology and Therapeutics. — The instruction in this department has been changed as follows: Pharmacology and Materia Medica are now taught in the second half of the second year, while the instruction in Therapeutics has been transferred to the first half of the third year. This change is of advantage to the students, as the clinical instruction which they receive in the second year prepares them much better to take up the subject of Therapeutics in the third year.

The following publications have appeared: —

The composition of zygadenus venenosus and the pharmacological action of its active principle. By Dr. M. Vejux-Tyrode. *The Journal of Medical Research*, May, 1904.

The influence of various fats on the formation and excretion of acetone. By Dr. Elliott P. Joslin. *The Journal of Medical Research*, 1904.

Pathology. — Researches on scarlet fever have been carried on by Associate Professor F. B. Mallory and Dr. C. W. Duvall, which have given knowledge of importance relating to the cause of this obscure disease.

Dr. J. H. Wright described a peculiar protozoal organism in the tissues of tropical ulcer which has since been shown to be identical with an organism previously described in Dum Dum fever.

The full report on the small-pox investigation, on which several members of the department have been engaged, appeared in February last. It was felt that a continuation of the work, mainly in the line of experimental study, was necessary in order to establish more definitely the life history of the organism described as the cause, and to clear up some still obscure points in the pathology. For this purpose an expedition was sent to the Philippine Islands. The members of the expedition were Drs. W. R. Brinckerhoff and E. E. Tyzzer, both of whom had been engaged on the study of small-pox in this city. The expenses of the expedition were provided for by three citizens of Boston, who contributed $4,000, and by a contribution of $2,000 by the Rockefeller Institute. The United States Government provided free transportation for men and equipment. The expedition arrived in Manila in March. Excellent facilities for work were given in the United States Government laboratory in Manila, and there have been full opportunities for the study of the disease. The work so far accomplished consists of an extension of the work done here and the discovery of new facts of importance. While the investigation of small-pox was the main object of the expedition, it was resolved to take advantage of any opportunities for the study of other infectious diseases. An unusual opportunity was given in Manila for the study of chicken-pox, and new knowledge of the pathology of this disease has been obtained. It has also been discovered that an endemic dermatitis in the Islands is caused by a moth resembling the brown-tailed moth. Dr. Tyzzer will probably return home in December, and Dr. Brinckerhoff will continue the work alone.

The main work in Neuropathology has consisted in the study of the cerebral cortex in infections.

The following papers by the members of the department, and by the men working under them in the pathological laboratories of the School and the Hospitals, have been published during the past year: —

Einige Beobachtungen über naturliche und künstlich erzengte Leukotoxine. By Dr. Henry A. Christian. *Deutsches Archiv. f. klin. Medizin*, 1904, LXXX, p. 333.

A case of early acute pancreatitis without haemorrhage. By Drs. H. H. Germain and H. A. Christian. *Journal of American Medical Association*, 1904, XLIII, p. 888.

A case of double malignant tumor of the testicle. By Dr. R. E. Lee. *Medical and Surgical Reports of the Boston City Hospital*, 1903, 14th Series, p. 69.

Papillary adenocystoma of the thyroid and accessory thyroid glands. By Dr. HARRY C. LOW. *Medical and Surgical Reports of the Boston City Hospital*, 1903, 14th Series, p. 53.

Scarlet fever protozoon-like bodies found in four cases. By Associate Professor F. B. MALLORY. *Journal of Medical Research*, 1904, Vol. X, p. 483.

A hitherto undescribed fibrillar substance produced by connective-tissue cells. By Associate Professor F. B. MALLORY. *Journal of Medical Research*, 1903–04, Vol. X, p. 334.

Protozoa in a case of tropical ulcer ("Delhi Sore"). By Dr. J. H. WRIGHT. *Journal of Medical Research*, 1903–04, Vol. X, p. 472.

A case of glioma in the sella turcica. By Drs. F. H. HOWARD and E. E. SOUTHARD. *American Journal of Medical Sciences*, October, 1904.

A case of cortical hemorrhages following scarlet fever. By Drs. E. E. SOUTHARD and F. R. SIMS. *Journal of American Medical Association*, September, 1904.

The following articles are included in the monograph entitled Studies on the Pathology and on the Etiology of Variola and of Vaccinia: —

I. The pathological anatomy and histology of variola. By Professor W. T. COUNCILMAN, and Drs. G. B. MAGRATH and W. R. BRINCKERHOFF.

II. The life-history of cytoryctes variole, guarnieri. By Professor G. N. CALKINS.

III. On the occurrence of cytoryctes variolae, guarnieri, in the skin of the monkey inoculated with variola virus. By Drs. G. B. MAGRATH and W. R. BRINCKERHOFF.

IV. The etiology and pathology of vaccinia. By Dr. E. E. TYZZER.

V. On experimental variola in the monkey. By Drs. G. B. MAGRATH and W. R. BRINCKERHOFF.

VI. The leucocyte reaction in variola. By Drs. G. B. MAGRATH, W. R. BRINCKERHOFF, and I. R. BANCROFT.

VII. The infectiousness of the blood in variola. By Drs. G. B. MAGRATH and W. R. BRINCKERHOFF.

VIII. On the infectiousness of the late stage of the skin lesion in variola. By Dr. W. R. BRINCKERHOFF.

IX. The central nervous system in variola. By Dr. E. E. SOUTHARD.

X. A clinical and experimental study of the bacteriolytic complement of the blood serum in variola. By Dr. R. L. THOMPSON.

XI. Clinical observations on variola. By Dr. I. R. BANCROFT.

XII. Epicrisis. By Professor W. T. COUNCILMAN.

Comparative Pathology. — During the year work has been continued at the laboratory in the Bussey Institution, the available places being taken by men doing research work.

The following papers have been published: —

The pathological effects of periodic losses of blood. An experimental study. By Professor THEOBALD SMITH. *The Journal of Medical Research*, Vol. XII, pp. 385–406.

A study of the tubercle bacilli isolated from three cases of tuberculosis of the mesenteric lymph nodes. By Professor THEOBALD SMITH. *The American Journal of the Medical Sciences*, August, 1904.

The further differentiation of flagellar and somatic agglutinins. By Drs. HENRY G. BEYER and A. L. REAGH. *The Journal of Medical Research*, Vol. XII, pp. 313–328.

Problems in the life history of pathogenic bacteria. Address. International Congress, Arts and Sciences, St. Louis. By Professor THEOBALD SMITH. To be published in *American Medicine*.

A grant of $500 from the Rockefeller Institute for Medical Research was available for research during the year.

Much time was given to the planning and equipment of the new laboratory for the preparation of diphtheria antitoxin and vaccine under the direction of the State Board of Health. The building was erected in the winter and spring. In the summer it was furnished with the necessary apparatus, and the work begun at the end of July. The separation of the laboratory of the State from that of comparative pathology, both under one roof since 1896, necessitated the temporary equipment of the latter with much new apparatus in order that the work of the coming year might go on. The new laboratory will furnish facilities better than heretofore for the investigation of certain problems in the comparative pathology of the blood, in antitoxins and vaccine.

There is urgent need of a modern stable for housing the larger domestic animals under observation, for the study of infectious animal diseases, for autopsies, etc. The new Medical School buildings offer no facilities of this kind, yet there are no research laboratories built at present which do not provide for the maintenance of large animals. The grounds of the Bussey Institution are well adapted for animal quarters, together with such limited laboratory facilities as are needed for work which cannot be done away from the animals under observation.

Surgery. — The Division of Surgery is composed of the Departments of Surgery, Clinical Surgery, and Orthopedic Surgery.

During the year many changes have been made in the teaching of surgery, and plans have been formulated to further improve the instruction. The students now begin their required surgical instruction in the second year and it is continued throughout the third year. These changes made it necessary to teach in sections both the second and third-year students, and the instructors in many instances have done double the customary amount of their work.

The systematic lectures, recitations, and clinical exercises were coördinated so that now, during a given week, students receive lectures, attend and take part in clinics, and have recitations upon a specified subject.

The course in Surgical Technic has been amplified and now trains students for service in the wards and Out-Patient departments of hospitals.

The required sectional teaching in Minor Clinical Surgery was so modified that, by the courtesy of the administration of the two large hospitals, the student is now received as a surgical dresser in the Out-Patient departments.

The petty examinations at the end of minor and major sectional courses were abolished, and a practical examination in Surgery was substituted as a part of the requirement for the degree.

The position of Surgical Dresser at the Relief Station of the Boston City Hospital, by an agreement with the administration of the Hospital, was opened to graduates and to medical students of three years' standing. Many of the fourth-year students availed themselves of this opportunity to gain actual experience in surgical and medical work.

The following is a list of the publications of work done in connection with the Medical School by members of the Division of Surgery during the year: —

Clinical lecture on epithelioma. By Professor J. C. Warren. *Boston Medical and Surgical Journal*, January 21, 1904.

Mechanical reduction of congenital dislocation of the hip. By Professor E. H. Bradford. *Journal of Medical Research*, November, 1903.

The resistance of tissues as a factor in the manual reduction of congenital hip dislocation. By Professor E. H. Bradford. *American Journal of Orthopedic Surgery*, February, 1904.

Case teaching in surgery. By Professor H. L. Burrell and Dr. J. B. Blake. P. Blakiston's Son & Co., 1904.

A clinical lecture on "Stricture of the Urethra." By Dr. F. S. Watson. *Boston Medical and Surgical Journal*, June, 1904.

Research work, under the auspices of the Committee on Surgical Research, has been carried on during the year. Bulletins No. II and No. III were published. The Secretary of the Committee on Surgical Research, Dr. R. B. Greenough, has edited these Bulletins.

Bulletin No. II contained a report of the Committee on Surgical Research upon the value of Blood Pressure Observations in Surgery, as determined by the Riva Rocci apparatus. This report was based upon clinical observations and experiments conducted at the Massachusetts General Hospital, the Boston City Hospital, and the Children's Hospital. The reports were made by Drs. F. T. Murphy, W. E. Faulkner, and J. S. Stone, and a brief summary of the results was contributed for the Committee on Research, by Dr. R. B. Greenough.

Bulletin No. II contained also a report upon the ultimate results of some gynaecological operations at the Massachusetts General Hospital, by Dr. R. G. Wadsworth.

Bulletin No. III contained four papers, as follows: —

The coagulation time of the blood: a comparison of the Wright and the Brodie-Russell instruments, based on 600 observations. By Drs. F. T. MURPHY and A. H. GOULD.

Experimental decapsulation of the kidneys. By Dr. N. H. GIFFORD.

A study of amputations of the lower extremity. By Dr. F. T. MURPHY.

Enterostomy in peritonitis. By Dr. R. B. GREENOUGH.

In addition to the papers already published, assistance was given by the Committee on Surgical Research toward the completion of a set of photographs and drawings of the lesions of chronic arthritis, for an investigation conducted by Drs. E. H. Nichols and F. L. Richardson.

Work was continued by the Cancer Committee of the Caroline Brewer Croft Fund during the year, and a third report will soon be published.

Hygiene. — Assistant Professor Harrington determined the comparative germicidal action of mercury compounds and of a number of the aromatic preparations (chiefly cresols) used largely in hospital work. He attempted the preparation of a combination that would destroy pyogenic organisms in less time than is required by any of the disinfectants in common use in surgical practice, and succeeded in finding one which was quickly effective and, at the same time, free from injurious effect on the skin. The cultures employed as test-objects withstood contact with the usual agents for periods varying from two minutes to three hours, but were destroyed by the new preparation within ten seconds. The combination has been adopted by many of the hospitals of the country.

He also completed an investigation of the effects of borax on the system, the substance being used very extensively as a food preservative. The results showed that, in cats at least, the daily ingestion of small amounts for some months causes extensive degenerative changes in the kidneys.

Dr. Walker investigated the bacteriolytic action of enzymes derived from the Bacillus pyocyaneus, and began a research on the bacteriolytic action, if any, of yeasts.

Dr. Harrington has published the following: —

Mercuric cyanide as a surgical disinfectant. *Boston Medical and Surgical Journal*, January 14, 1904.

Sources, effects, and prevention of dirty milk. *Journal of the Massachusetts Association of Boards of Health*, February, 1904.

Sodium sulphite: A dangerous food preservative. *Journal of Infectious Diseases*, March, 1904.

The practical side of the question of milk supply. *Albany Medical Annals*, March, 1904.

Sulphurous acid and its salts as food preservatives, as aids to fraud, and as possible causes of lesions of the kidneys. *Boston Medical and Surgical Journal*, May 26, 1904.

Borated food as a cause of lesions of the kidneys. *American Journal of the Medical Sciences*, September, 1904.

Some studies in asepsis. *Annals of Surgery*, October, 1904.

Milk. Health education series, No. 2. Boston: published by the Health Education League.

Museum. — The work in the Museum has been conducted upon the same general plan as during the previous years.

The chief additions to the collection have been made by Professor Dwight, who has added a series of Variations of Bone, which have been systematically arranged and labelled.

A series of models illustrating the variations in the normal breast were purchased by the Museum fund, also some casts selected from the collection of Dr. Goodwillie. The latter have been found useful in illustrating the surgical diseases of the mouth and face.

The Museum continues to be used frequently by advanced students and practitioners in a gratifying way.

The Scholarships and Fellowships were awarded as follows: —

Barringer Scholarship, No. 1,	G. S. Amsden, A.B.,	3d Class.
Isaac Sweetser Scholarship,	A. H. Crosbie, A.B.,	2d “
Claudius M. Jones “	S. J. Beach, A.B.,	3d “
Hilton “	C. R. Metcalf, A.B.,	2d “
“ “	W. A. Sawyer, A.B.,	2d “
Barringer “ No. 2,	H. W. Godfrey, A.B.,	2d “
Alfred Hosmer Linder Scholarship,	T. Ordway, A.M.,	3d “
Eveleth “	E. H. Place,	4th “
“ “	L. S. Beals, A.B.,	4th “
“ “	L. G. Beeley, A.B.,	4th “
Edward Wigglesworth “	C. L. Overlander, Ph.B.,	3d “
Charles B. Porter “	R. S. Stearns, S.B.,	3d “
Faculty “	L. Arkin, S.B.,	4th “
“ “	N. H. Clark, S.B.,	4th “
“ “	H. B. C. Riemer,	4th “
“ “	W. C. Woodward, B.L.,	4th “
John Thomson Taylor “	B. E. Sibley, A.B.	3d “
Lucius F. Billings “	R. H. Goldthwaite, A.B.,	2d “
Orlando W. Doe “	W. L. Barnes, A.B.,	4th “
Charles Pratt Strong “	C. H. Staples, A.B.,	4th “
David Williams Cheever “	M. J. Shaughnessy, A.B.,	1st “
Lewis and Harriet Hayden “ (½)	L. E. Welker, Ph.B.,	1st “
“ “ “ “ “ (½)	J. G. Trimble, Jr., A.B.,	2d “
Cotting Gift,	W. Janowsky (Rochester Univ. Senior),	1st “

The George Cheyne Shattuck Fellowship was awarded Henry A. Christian, A.M., M.D., for work on leucocytotoxines and on histology of fat tissues.

The John Ware Fellowship and the Charles Eliot Ware Fellowship were awarded Ernest E. Tyzzer, B.P., A.M., M.D., for work on varicella and on a severe form of dermatitis which occurs in the Philippines and is due to a moth somewhat similar to the brown-tailed moth.

No essay was submitted for the William H. Thorndike prize, and the Boylston Medical prize was not awarded.

The statistics of the School will be found in the following tables: —

COURSES OF INSTRUCTION, 1903–04.

FIRST YEAR.

	Students examined.
Anatomy. — Professor T. Dwight, Demonstrator Warren, Assistant Whiteside, Assistant Mosher, Assistant Davis, Assistant Butler, Assistant Marcy, Assistant Wadsworth, Assistant Cheever, Assistant Murphy, Assistant Scannell, Assistant Robinson.	72
Physiology. — Professor H. P. Bowditch, Associate Professor W. T. Porter, Asst. Professor Cannon, Instructor Maxwell.	84
Histology and Embryology. — Professor Minot, Assistant Donoghue, Assistant Bailey, Assistant Emerson, Instructor Bremer, Instructor Lewis, Austin Teaching Fellow Taylor.	72
Physiological and Pathological Chemistry. — Professor Wood, Associate Professor Hills, Instructor Hewes, Instructor Emerson, Assistant Alsberg, Assistant Connolly.	70

SECOND YEAR.

Bacteriology. — Professor Ernst, Assistant Denny, Assistant Page, Assistant Perry, Assistant Robey, Assistant Everett, Assistant Berry, Instructor Hill, Austin Teaching Fellow Frothingham.	72
Pathology and Pathological Anatomy. — Professor Councilman, Associate Professor Mallory, Instructor Taylor, Instructor Wright, Instructor Christian, Instructor Nichols, Assistant Magrath, Assistant Tyzzer, Assistant Brinckerhoff, Assistant Sims, Assistant Southard.	74
Comparative Pathology. — Professor T. Smith, Instructor Christian, Assistant Magrath, Assistant Tyzzer.	
Therapeutics. — Asst. Professor Pfaff, Assistant Jordan, Instructor Vejux-Tyrode.	20
Hygiene. — Asst. Professor Harrington, Assistant Walker.	67
Theory and Practice. — Instructor Cutler, Assistant Stone, Assistant Joslin, Assistant White, Assistant Badger, Assistant Pratt.	
Clinical Medicine. — Professor Shattuck, Asst. Professor Sears, Instructor Vickery, Assistant Prescott, Assistant J. M. Jackson, Assistant Ames, Instructor Cabot, Instructor H. Jackson, Assistant Coolidge.	
Surgery. — Professor Warren, Professor Burrell, Instructor C. A. Porter, Instructor Nichols, Assistant Lothrop, Instructor J. B. Blake, Assistant Faulkner, Assistant Balch, Assistant Lund, Assistant Brewster, Assistant Cobb, Assistant Cotton, Assistant Codman, Assistant Greenough, Assistant Hubbard, Assistant Jones, Assistant Crandon.	

THIRD YEAR.

Theory and Practice of Medicine. — Professor Fitz, Instructor Cutler, Assistant Stone, Assistant Joslin, Assistant White, Assistant Badger, Assistant Pratt.	72
Obstetrics. — Professor W. L. Richardson, Asst. Professor C. M. Green, Instructor Higgins, Assistant Newell, Assistant Swain, Assistant Friedman.	78

Clinical Obstetrics. — Professor W. L. Richardson, Asst. Professor C. M. Green, Instructor Higgins, Assistant Newell, Assistant Swain, Assistant Friedman, Assistant Young.	
Dermatology. — Asst. Professor Bowen.	76
Diseases of the Nervous System. — Professor Putnam, Assistant Waterman.	79
Pediatrics. — Professor Rotch, Asst. Professor McCollom, Assistant Craigin, Instructor Morse, Assistant Ladd, Assistant Dunn.	76
Psychiatry. — Instructor Cowles.	76
Gynaecology. — Asst. Professor Davenport, Assistant Storer, Assistant Newell, Assistant Young.	78
Surgery and Clinical Surgery. — Professor Warren, Professor M. H. Richardson, Professor Burrell, Instructor Thorndike, Instructor Nichols, Lecturer Beach, Lecturer Elliot, Assistant Lund, Assistant Lothrop, Assistant Faulkner, Assistant Brewster, Assistant Codman, Assistant Balch, Lecturer Harrington, Assistant Cobb, Assistant Cotton, Assistant Greenough, Assistant Hubbard, Assistant Jones.	67
Clinical Medicine. — Professor Shattuck, Asst. Professor Sears, Instructor Withington, Instructor Vickery, Instructor Jackson.	

FOURTH YEAR.

Clinical Surgery. — Professor J. C. Warren, Professor M. H. Richardson, Professor Burrell, Instructor Monks, Assistant Lund, Assistant Mumford, Assistant Cobb, Assistant Lothrop, Instructor Thorndike, Instructor C. A. Porter, Assistant Greenough, Instructor Nichols, Assistant J. B. Blake, Assistant Brooks, Assistant Faulkner, Assistant Brewster, Assistant Cotton, Assistant Codman, Assistant Hubbard, Assistant Jones, Assistant Crandon.	158
Clinical Medicine. — Professor Shattuck, Asst. Professor Sears, Instructor R. C. Cabot, Instructor Withington, Instructor H. Jackson.	141
Ophthalmology. — Instructor Standish, Assistant Jack, Assistant Clap, Assistant Quackenboss, Assistant Spalding, Assistant Haskell.	140
Otology. — Professor Blake, Professor J. O. Green, Assistant Hammond.	139
Laryngology. — Instructor DeBlois, Instructor Farlow, Instructor Coolidge.	142
Legal Medicine. — Instructor E. W. Dwight.	141
Syphilis. — Instructor Post, Assistant C. M. Smith.	140
Orthopedics. — Associate Professor Bradford, Assistant Lovett, Assistant Goldthwait, Assistant Brackett, Assistant Dane.	120
Hygiene. — Asst. Professor Harrington, Assistant Walker.	145
Psychiatry. — Instructor Cowles, Instructor Lane.	
Genito-Urinary Surgery. — Lecturer Watson, Instructor Thorndike.	
Municipal Sanitation. — Lecturer Durgin.	

Fourth Year Electives.

Ophthalmology. — Instructor Standish.	4
Otology. — Professor Blake, Professor J. O. Green, Assistant Hammond, Assistant Crockett.	3
Dermatology. — Instructor C. J. White.	60

Diseases of the Nervous System. — Professor PUTNAM, Instructor WALTON, Instructor KNAPP.	5
Gynaecology. — Asst. Professor C. M. GREEN.	16
Operative Obstetrics.—Asst. Professor C. M. GREEN, Instructor HIGGINS, Assistant NEWELL, Assistant SWAIN, Assistant FRIEDMAN.	96
Operative Surgery. — Professor M. H. RICHARDSON, Instructor MONKS.	77
Orthopedics. — Associate Professor BRADFORD.	22
Clinical Microscopy. — Curator WHITNEY.	15
Clinical Chemistry. — Professor WOOD, Instructor HEWES, Instructor EMERSON.	3
Anatomy. — Demontrator WARREN, Instructor DAVIS.	34
Embryology. — Professor MINOT, Instructor LEWIS.	2
Histology of the Nervous System. — Professor MINOT, Instructor BREMER, Instructor LEWIS.	1
Physiological Chemistry. — Asst. Professor PFAFF.	2

TABLE I. — GENERAL STATISTICS OF THE SCHOOL.

New matriculants	76

The whole number of students in attendance: —

In courses for graduates	49
Fourth Class	115
Third Class	81
Second Class	90
First Class	78
Total	413

Applicants for Degree (February)	11
Applicants for Degree (June)	188
Rejected	16
Graduated	183

Of the 183 students who received the degree of Doctor of Medicine, 27 received the degree *cum laude*.

	SUMMER COURSES.					GRADUATE COURSES.				
	1900.	1901.	1902.	1903.	1904.	1899–00.	1900–01.	1901–02.	1902–03.	1903–04.
Courses taken	167	151	145	188	177	63	40	30	57	59½
Students	149	126	130	148	135	46	29	25	41	49
Receipts	$4695	$4275	$4400	$5280	$4942	$1465	$1065	$700	$1400	$1446

TABLE II.—FINAL EXAMINATIONS.

		First Class.								Second Class.									
		Histology.		Physiolog. and Path. Chemistry.		Anatomy.		Physiology.		Clinical Chemistry.		Path. Anatomy.		Therapeutics.		Bacteriology.		Hygiene.	
			%		%		%		%		%		%		%		%		%
1900	Passed	146		129		113		116		133		148		109					
	Rejected	14	9	18	12	12	9	35	23	15	10	5	3	62	36				
	Total	160		147		125		151		148		153		171					
1901	Passed	141		147		143		126		123		122		89		95			
	Rejected	24	13	31	17	26	15	52	30	12	9	7	5	60	40	21	18		
	Total	165		178		169		178		135		129		149		116			
1902	Passed	71		64		71		68		128		143		108		135			
	Rejected	7	9	12	16	18	20	13	16	23	15	17	11	68	38	19	12		
	Total	78		76		89		81		151		160		176		154			
1903	Passed	70		71		72		66		68		58		67		68			
	Rejected	5	7	2	3	10	12	33	33	9	12	15	20	39	37	9	12		
	Total	75		73		82		99		77		73		106		77			
1904	Passed	68		67		69		50				70				64		64	
	Rejected	4	5	3	4	3	4	34	40			4	5			8	11	3	4
	Total	72		70		72		84				74				72		67	

TABLE II.—FINAL EXAMINATIONS, CONTINUED.

	Third Class.																Fourth Class.																	
	Theory and Practice.		Surgery.		Obstetrics.		Pediatrics.		Dermatology.		Gynaecology.		Neurology.		Psychiatry.		Clinical Medicine.		Clinical Surgery.		Ophthalmology.		Otology.		Laryngology.		Legal Medicine.		Syphilis.		Orthopedics.		Hygiene.	
		%		%		%		%		%		%		%		%		%		%		%		%		%		%		%		%		%
1900																																		
Passed	118		116		116		129		114		120		119		115		115		117		110		115		114		119		121		83		113	
Rejected	7	6	5	4	12	9	10	7	13	10	0	0	7	5	8	6	9	7	2	1	16	12	1	1	5	4	0	0	1	1	0	0	18	13
Total	125		121		128		139		127		120		126		123		124		119		126		116		119		119		122		83		131	
1901																																		
Passed	132		126		129		136		109		128		125		129		111		120		108		114		117		121		120		71		116	
Rejected	8	6	5	4	9	6	2	1	30	22	7	5	12	9	9	6	10	8	2	2	10	8	0	0	0	0	0	0	0	0	0	0	12	9
Total	140		131		138		138		139		135		137		138		121		122		118		114		117		121		120		71		128	
1902																																		
Passed	111		110		111		120		113		117		116		116		131		129		121		131		137		132		135		98		124	
Rejected	10	8	5	4	11	9	3	2	19	14	6	5	7	5	11	8	6	4	0	0	18	13	3	2	0	0	2	1	1	1	1	1	17	12
Total	121		115		122		123		132		123		123		127		137		129		139		134		137		134		136		99		141	
1903																																		
Passed	137		132		121		128		131		130		139		136		109		114		112		113		115		116		118		92		111	
Rejected	6	4	8	6	22	15	12	9	16	11	16	11	8	6	6	4	8	7	0	0	6	5	2	2	3	3	3	3	0	0	0	0	12	10
Total	143		140		143		140		147		146		147		142		117		114		118		115		118		119		118		92		123	
1904																																		
Passed	71		65		68		70		66		71		73		71		128		158		140		134		139		135		139		120		138	
Rejected	1	1	2	3	10	13	6	8	10	13	7	9	6	7	5	6	13	9	0	0	0	0	5	3	3	2	6	4	1	1	0	0	7	5
Total	72		67		78		76		76		78		79		76		141		158		140		139		142		141		140		120		145	

TABLE II. — FINAL EXAMINATIONS, Continued.

Fourth Class. — Electives.

	Ophthalmology.	%	Otology.	%	Gynaecology.	%	Dermatology.	%	Neurology.	%	Operative Obstetrics.	%	Operative Surgery.	%	Bacteriology.	%	Orthopedics.	%
1900																		
Passed	3		4		11		54		5		59		81		6		40	
Rejected	0	0	0	0	0	0	3	5	1	17	0	0	7	8	0	0	3	7
Total	3		4		11		57		6		59		88		6		43	
1901																		
Passed	3		3		33		32		13		56		71		10		50	
Rejected	0	0	0	0	0	0	4	11	2	13	1	2	3	4	2	17	0	0
Total	3		3		33		36		15		57		74		12		50	
1902																		
Passed	6		1		14		64		7		87		79		5		37	
Rejected	0	0	0	0	1	7	4	6	2	22	11	11	2	2	0	0	1	2
Total	6		1		15		68		9		98		81		5		38	
1903																		
Passed	7		4		25		47		7		64		78		1		25	
Rejected	0	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0
Total	7		4		25		49		7		64		78		1		25	
1904																		
Passed	4		3		16		57		5		94		77				22	
Rejected	0	0	0	0	0	0	3	5	0	0	2	2	0	0			0	0
Total	4		3		16		60		5		96		77				22	

	Clinical Microscopy.	%	Clinical Chemistry.	%	Anatomy.	%	Physiology.	%	Embryology.	%	Hygiene.	%	Physiolog. Chemistry.	%	Comparative Etiology of Infectious Diseases.	%	Histology of the Nervous System.	%	Pharmacology.	%
1900																				
Passed	5		4		12		1		1				2		4		2			
Rejected	0	0	0	0	2	14	0	0	0	0			0	0	0	0	0	0		
Total	5		4		14		1		1				2		4		2			
1901																				
Passed	10		3		20		2		2		1		1		2		2			
Rejected	0	0	0	0	0	0	0	0	1	33	0	0	0	0	0	0	0	0		
Total	10		3		20		2		3		1		1		2		2			
1902																				
Passed	7		3		14				1		5		3		2		1			
Rejected	1	12	0	0	0	0			1	50	0	0	0	0	0	0	0	0		
Total	8		3		14				2		5		3		2		1			
1903																				
Passed	12		2		19				2				2		4					
Rejected	0	0	0	0	0	0			0	0			0	0	0	0				
Total	12		2		19				2				2		4					
1904																				
Passed	15		3		33				2				1				1		1	
Rejected	0	0	0	0	1	1			0	0			0	0			0	0	0	0
Total	15		3		34				2				1				1		1	

At the close of the year the last class was graduated to which candidates not holding a degree in Arts, Literature, Philosophy or Science could be admitted. This requirement for admission has, as was to be expected, greatly reduced the total number of students in the School, but the number of students holding such degrees October 1, 1904, was forty-nine more than were in the School when the new requirement went into effect.

WILLIAM L. RICHARDSON, *Dean.*

THE DENTAL SCHOOL.

To the President of the University: —

Sir, — As Dean of the Dental School I herewith submit the following report for the academic year 1903–04.

The number of students enrolled was 115, divided as follows: —

Third-year students	35
Second-year students	29
First-year students	50
Post-graduate	1
	115

There were thirty-four candidates for the degree, five of whom failed in final examinations, leaving a graduating class of twenty-nine, five of whom received the degree *cum laude*.

The courses of instruction were as follows: —

Anatomy. — Professor T. Dwight, Demonstrator Warren, Assistants Flagg, Allen, Mosher, Butler, Marcy, Whiteside, Davis, Wadsworth, Cheever, Murphy, and Scannell. 424 hours.

Physiology. — Professor H. P. Bowditch, Associate Professor W. T. Porter, Assistant Professor Cannon, Instructor Maxwell. 348 hours.

Histology and Embryology. — Professor Minot, Assistants Emerson, Donoghue, Instructors Bremer, Lewis, Austin Teaching Fellow Taylor. 252 hours.

Physiological, Pathological and Dental Chemistry. — Professor E. S. Wood, Associate Professor Hills, Assistants Connolly, Alsberg, Instructors Hewes, Emerson, Smith. 308 hours.

Bacteriology. — Professor H. C. Ernst, Instructor Hill, Assistants Page, Denny, Robey, Perry, Everett, Berry, Austin Teaching Fellow Frothingham. 160 hours.

Materia Medica and Therapeutics. — Professor E. C. Briggs, 32 lectures; Assistant Rodgers, 32 recitations.

Dental Pathology. — Professor C. A. Brackett. 32 lectures.

Neurology. — Instructor E. W. Taylor. 4 lectures.

Crown and Bridge Work and Metallurgy. — Assistant Professor Cooke. 32 lectures.

Surgical Pathology and Surgery. — Professor Warren, Assistant Professor Burrell, Instructor Monks. 18 lectures.

Mechanical Dentistry and Orthodontia. — Professor E. H. Smith. 32 lectures.

Orthodontia. — Professor E. H. Smith, 32 clinics; Assistant Baker, 64 hours.

Mechanical Dentistry. — Clinical Instructor J. D. Dickinson. 8 clinical lectures.

Mechanical Dentistry. — Clinical Lecturer Stoddard. 16 lectures and demonstrations.

Mechanical Dentistry, laboratory, Juniors. — Demonstrator Cross, Assistant Demonstrator Chase. 544 hours.

Mechanical Dentistry, laboratory, Seniors. — Demonstrator Cross, Instructors Eldred, Hadley, Parsons, Grant, Hayden, Chute, Estabrooks, Spinney, J. W. Dickinson. 496 hours.

Operative Dentistry and Dental Jurisprudence. — Clinical Lecturer Clapp, 12 lectures; Instructor Starratt, clinical assistant.

Operative Dentistry and Oral Surgery. — Professor Fillebrown, 32 lectures.

Oral Surgery. — Professor Fillebrown, 32 clinics; Assistant Shuman.

Operative Dentistry. — Assistant Professor Potter. 32 lectures.

Operative Dentistry. — Clinical Instructor Werner. 13 lectures and demonstrations.

Operative Dentistry, infirmary, Juniors. — Assistant Demonstrator D. W. Dickinson, Instructors Furfey, Littig, Marston, King, Davis, Esgate, McPherson, Naylor, Elliott, Whitehill. 403 hours.

Operative Dentistry, infirmary, Seniors. — Demonstrator McMeekin, Instructors Taft, Eddy, Blaisdell, Bradley, Holmes, Perkins, Paul, Farrington, Harding, Wentworth. 624 hours.

Operative Dentistry, Samaritan Hospital. — Instructor Rogers. 32 clinics.

Mechanical Treatment of Fractured Jaws, Cleft Palates, and other Deformities. — Demonstrator Cross. 15 lectures.

Extracting and Anaesthesia (Demonstrations). — Instructors Hart, Squarebrigs.

The following tables show the work done in the infirmary and laboratory during the year: —

OPERATIVE DEPARTMENT.

Surgical clinics by Professor Fillebrown.

Necrosis	Number of cases	11
Abscess	“ “	5
Antrum disease	“ “	8
Epulis	“ “	3
Hare lip	“ “	1
Re-implantation	“ “	1
Impacted Lower Third Molars removed	“ “	5

INFIRMARY.

No. of patients treated	6,708
“ “ “ for diseases of teeth and gums	2,707
“ sets of teeth cleaned	1,099
“ operations	17,079
“ fillings — gold	2,236
“ “ amalgam	1,831
“ “ cement	1,471
“ “ gutta percha	2,399
“ porcelain inlays	120

MECHANICAL DENTISTRY.

Service to Patients.

No. of sets of artificial teeth	240
“ “ “ “ repaired	106
“ appliances for fractured jaws	42
“ obturators and appliances for cleft palates	10
“ plugs for antrum	6

Practice Work.

No. of sets of artificial teeth	77

Under the direction of Professor Smith: —

No. of cases of irregularity treated and corrected	71
“ appliances	122
“ articulated models of regulating cases	125
“ regulating appliances	60

Under the direction of Asst. Professor Cooke and Instructor Eldred: —

Service to Patients.

No. of crowns and caps	120
“ “ “ repaired	14
“ pieces of bridge work	51
“ “ “ repaired	12

Practice Work.

No. of crowns and caps	247
“ bridges	145
“ porcelain inlays	26
“ carved teeth models	29

The course in metallurgy, heretofore given by Assistant Professor Cooke as a part of his course in crown and bridge work, was added to the course in dental chemistry given by Mr. H. Carleton Smith.

The courses in anatomy, physiology, histology, and bacteriology, as given in the Medical School to medical and dental students, were reorganized so that dental students may receive more special training along dental lines. The lack of this special training during the first year has been a serious drawback to the dental students in their work of the second and third years.

During the year, Dr. Thomas Fillebrown, Professor of Operative Dentistry and Oral Surgery, resigned. Professor Fillebrown has served the School as Professor of Operative Dentistry for fourteen years, and as Professor of Operative Dentistry and Oral Surgery for seven years, thus making a total service of twenty-one years. During this time Professor Fillebrown has been of great service to the School. He improved the technique of the surgery of cleft palates and added to it much that was new. He originated a distinctly new apparatus for maintaining continuous anaesthesia during surgical operations in the mouth. He contributed largely to dental literature and has freely given his inventions to the profession.

On April 11, 1904, Dr. William H. Potter, Assistant Professor of Operative Dentistry, was appointed to the Professorship of Operative Dentistry, the appointment to take effect September 1, 1904.

The summer work at the infirmary was well carried on through the gratuitous services of Drs. Squarebrigs, Cassidy, O'Brien, Hart, Sears, and Kent, assisted by a number of senior students who volunteered for the work. 498 patients were treated during the summer vacation.

The School has for several years maintained an Emergency Corps whose duty it has been to respond to calls for dental service in hospitals and in the homes of the sick poor, the object of this service being to relieve these people from pain arising from diseased teeth. The members of this corps have been selected from the senior class and have rendered efficient service. The Committee in charge of the work, however, thinking that it could be better done by graduates of the School, have secured for this service nine men, graduates of the School practising in Boston.

In 1902–03 the School closed with a deficit for the year of $2,124.80. This was due in part to the increased expense which attaches to improved laboratory and infirmary methods of teaching, and in part to the expense of materials, drugs, etc., used for patients, and for which an insufficient sum was charged, it being the purpose of the Administrative Board to run the infirmary on a charity basis so far as it is possible to do so. It did not seem desirable to increase the infirmary fees to prevent a repetition of last year's deficit, and so a petition was circulated among the teachers of the School asking for voluntary subscriptions. By this means $2,883.50 was raised which was applied to current expenses, thus saving another deficit for this year. A continuance of this generosity cannot be expected, and should not be allowed, as the teachers are giving to the School each year all that they can afford to give in the way of productive time taken from their hours of practice. There are a few patients who come to the infirmary who can afford to pay something for the treatment they receive. There are many others, however, who cannot afford to pay the cost of the materials used, and for such cases a suitable endowment is an absolute necessity.

EUGENE H. SMITH, *Dean.*

BUSSEY INSTITUTION.

To the President of the University: —

Sir, — I respectfully submit the following report on the Bussey Institution for the year 1903–04.

Thirty-three students were in attendance, of whom twenty, devoted to Agriculture and Horticulture, were registered at the Bussey Institution, while thirteen, members either of the Graduate School or of the Lawrence Scientific School, came from Cambridge to the Bussey Institution on certain days to attend the lectures on horticulture and to study the characteristics of trees and shrubs as seen growing in the Arnold Arboretum.

The degree of Bachelor of Agricultural Science was conferred upon three candidates at Commencement.

The usual courses of instruction were given in Agriculture (including Cattle Breeding, Cattle Feeding, and Dairying), Horticulture, Agricultural Natural History, Agricultural Chemistry, Chemical Analysis, and Mathematics and Surveying, by Messrs. Hersey, Watson, Morse, Dillingham, Robinette, Gilman, and Storer.

F. H. STORER, *Dean*.

THE LIBRARY.

To the President of the University: —

Sir, — I beg to submit this my seventh annual report on the Library, covering the year 1903–04.

In my previous reports, I have tried year by year to make plain, without exaggeration and without concealment, the precise nature of the Library's needs, the dangers which attend a postponement of their relief, and the ends to which a wise policy would direct the Library's growth. Every month's added experience confirms the justness and the urgency of what I have tried to set forth, but the strong hand or the united effort to provide what is needed still delays.

Our shelves are literally overflowing with books, gathered with the best expert advice and the most generous coöperation, and every year some group of them has to be removed from the building to make room for growth. Yet, urgent as is the need for additional shelf-room, even this is not our most pressing want; for books can be temporarily stored in other buildings or even boxed up as a last resort, and can wait until the larger quarters are at length provided, when they will resume their places in the Library; the loss, that is to say, is only temporary and partial, — it is as though, for the time being, certain books, and those for the most part the least useful in the Library, had never been acquired. There are other needs which occasion a more serious loss than this. Whatever prevents efficiency either in the administration of the Library or in the use made of the books by scholars is a permanent loss, one that cannot be made up in the future. These are the difficulties and shortcomings which are the most discouraging to grapple with, and give deepest concern to those who are the most interested in the College Library.

It is useless in this report to tell the story for the seventh time, but it must at least be said that last year was especially trying, because retrenchment in College expenditure was necessary in all directions, and the Library had to suffer in common with other departments. Administrative expenses in the Library as planned at the opening of the College year were reduced about $1,700, and this in the face of an expected large increase in the work to be done. In earlier reports, I have spoken of the many directions in which our work ought to expand or to improve; the same straitness in building and in money still affects every department of the Library's activity. No change of policy can be discussed, no new work planned for, no improvement in method can be adopted, no new gift accepted, without our coming up against the same two obstacles — "lack of room" or "lack of means." Every library doubtless has its own difficulties and feels the pinch of inadequate resources, but Harvard alone among the larger universities of the country has made no radical improvement in its library building in more than twenty-five years, for the changes made ten years ago in the old part of Gore Hall were of a temporary nature and designed solely to provide more shelf-room and more seats in the general reading-room. I visit other college libraries and I find well planned rooms for the suitable preservation of their books and ample opportunities for their convenient use by scholars, and I have to confess that the Harvard library is without such advantages. In 1877 Harvard set an example to others in building the first iron book-stack, then an untried method of construction, but since that time adopted for almost every library that has been built. More recently, other libraries have introduced other improvements, and we ought long ago to have followed their lead and benefited by the result of their experience.

The remarkable series of gifts for the purchase of books received this past year, the full list of which is given farther on, shows that the Library need never lack for generous support in this direction. These gifts, devoted as they were to special subjects, also show that our graduates, realizing what the Library stands for and has stood for, are interested in the growth here of strong special collections valuable to scholars and investigators, and quite outside the needs of undergraduate instruction. From the time of its foundation, for more than two centuries, this Library was the chief support of learning in America and the chief depository of the tools of scholarship. It has occupied a unique position among American libraries. It is still looked to by college teachers and by students all over the land, who expect to find here resources which they have failed to discover elsewhere. It should never cease to hold this honorable position and it never need do so. It may confidently expect always to be supplied generously with means for the current purchase of necessary books, and in addition it may always command the means to gather special collections of exceptional richness which shall make this Library the natural centre for research in many fields of learning, for it can depend upon the loyalty and interest of an ever increasing and generous body of graduates. In this respect it has a source of strength and a security which no public library supported by public funds can approach, and it should be able to assure its graduates and the public in general that a college library, above all others, can be depended upon to guard the interests of scholarship in the broadest sense.

Its only danger is that, having inadequate funds for administration, and so depending in part upon the free income of the College, on which other departments have an equal or even a more insistent claim, it may be forced by considerations of economy to restrict its activities, to abdicate the position it has so long held, to give up far-reaching plans, generous policies, and thorough-going methods, and to confine itself to supplying only the immediate necessities of college instruction and satisfying the wants of the present day alone. Already, under existing conditions of building and of income, the Library does not meet these demands as it should. It buys books on a generous scale, it receives gifts on a magnificent scale, but in recent years it has been each year less able to spend what is necessary to make these accessions available, and it has not provided, as other colleges have provided, convenient facilities for using them. This autumn the Corporation diminished by a little over one thousand dollars the income for the purchase of books. This is a wise and perfectly logical act so long as the expenditure for administration is held down to a fixed sum and the opportunities for using the books to advantage do not increase. It would be logical to cut down the purchase of books even by one half, to decline two-thirds of the gifts offered to us, and to dispose of many of our great special collections, which are generally considered to give the Library an honorable distinction, if provision cannot be made both in respect of building and expense of administration for the support of a normal, well regulated, and reasonable growth, a growth directed by the ablest body of expert advisers that can be imagined, the members of the College Faculty. Though the College, unaided, might be compelled by lack of means thus to restrict the growth and usefulness of the Library, I cannot believe that the alumni and the friends of learning throughout the country will permit such a condition to obtain.

It is a pleasure to record that in the peculiar difficulties of the past year, three friends have come to our assistance and have provided for special undertakings which would otherwise have had to be postponed, or carried on to the injury of other work. Mr. James H. Hyde assumed the expense of cataloguing Professor Bôcher's Molière collection, Mr. Hiram Bingham, Jr., employed an assistant to reclassify the books on South American History which are under his care, and gave personal supervision to the work in all its details, and Assistant Professor A. C. Coolidge took upon himself a large part of the expense connected with ordering books for the Hohenzollern collection and selecting from the Von Maurer library what we desired to retain. Of these kindnesses further mention will be made beyond.

No new numbers of the Bibliographical Contributions have been issued, but several are in progress. A catalogue of our extensive collection of Chapbooks and Broadsides (of a popular character) is now in press; the catalogue of the Molière collection is ready for the printer; an annotated list of editions of Tasso needs only a little revision; and the material is at hand for a "List of the more important recent accessions to the Library" which will contain the titles of all rare, expensive, and specially valuable books lately acquired, omitting such works, particularly recent publications, as any well equipped library might be expected to own. I hope that this last list will be of value to other libraries and to scattered students, as well as to our own professors, informing them what can be found in the Harvard Library.

In the autumn of 1903, the Corporation appointed three new officers in the Library, Curators of special departments, serving without stipend, unburdened by any regular administrative duties, but giving, so far as they have time and inclination to do so, advice and direction in the purchase and classification of books, and exercising a general supervision over the collections committed to their care. These three officers are Harry Nelson Gay, A.M., of Rome, Curator of Italian History of the Nineteenth Century, Edgar Huidekoper Wells, A.B., Curator of Modern English Literature, and Hiram Bingham, Jr., A.M., Curator of South American History and Literature. To Dr. Malcolm Storer, of Boston, we have already for many years been indebted for unpaid services as Curator of Coins. By the appointment of these gentlemen to honorary positions on the Library staff, the Corporation acknowledges the value of services already freely given by all of them, and hopes to retain their interest and counsel in the growth of their several departments. Of help received from them during the past year I speak later.

The library world has been deeply moved by the destruction by fire of the National Library in Turin, and in response to appeals for aid, the Corporation authorized me to send to that Library one hundred volumes from our duplicates. I selected these from books formerly belonging to Professor Ephraim W. Gurney, which came to the Library through the family of Professor Gurney's brother-in-law, Edward W. Hooper. The volumes sent were all works of value on Roman law and mediaeval history, and remembering the similar disaster to our own library in 1764, and the quick response from this country and from abroad which helped repair the loss, it was a pleasure to send this contribution toward the upbuilding again of a great European collection which had suffered in the same way.

From the chief librarian of the library I have received the warmest expressions of gratitude.

During the spring I asked the Catalogue Department and a few other members of the staff to meet weekly for an hour in the afternoon to make some study of the reference books most useful to cataloguers. We took as the basis of our study a classified list of such books lately compiled by the New York State Library. At each meeting one or more members were charged with reporting upon the books relating to a special subject or country, and the others were called upon to add what they could from their own experience. All took down from these reports in their note-books or their copies of the list, the shelf-marks of the volumes in our library, remarks on the scope or reliability of the several books, and the titles of other useful works not mentioned in the Albany list. I hope the meetings have had a good effect in promoting an intelligent use of reference books, for nothing is more important for a cataloguer than to know where to look first for desired information, and nothing is more useless and time-consuming than to search fruitlessly through books that ought not to be expected to contain what one is seeking.

The accessions to the libraries of the University for the year, and the present extent of each are shown in the following table: —

ACCESSIONS.	Volumes added.	Present extent in	
		Volumes.	Pamphlets.
Gore Hall (College Library)	22,295	437,109	293,000
Law School	6,061	81,808	8,750
Divinity School	638	33,867	8,976
Medical School	39	2,427	. .
Dental School	157	858	5,253
Bussey Institution	68	4,448	12,586
Museum of Zoölogy	1,982	40,064	33,330
Peabody Museum	181	3,138	2,908
Astronomical Observatory	382	11,141	21,969
Gray Herbarium	527	8,969	7,120
Arnold Arboretum	909	10,511	. .
Twenty-eight Special Reference Libraries	1,811	39,054	. .
Total	35,050		
Deduct, transfers between Gore Hall and Department Libraries	137		
Totals	34,913	673,394	393,892

Of the 22,295 volumes added to the Gore Hall collection, 7,870 came by purchase or exchange, 1,312 as the result of binding serial publications, and 1,104 by binding pamphlets separately, while the remainder, 12,009 volumes, were received by gift. 15,476 pamphlets have been received, 14,259 by gift, and 1,217 by purchase or exchange. 354 sheets of maps have been added to the map collection, which now numbers 21,610 sheets.

The number of volumes added is far greater than ever before. From 1895 to 1900 the average yearly increase was 12,800 volumes. In 1900–01 the additions numbered 13,800, in 1901–02, 14,000, in 1902–03, 17,000. Up to 1898 the accessions had only twice exceeded 12,000.

Dr. Malcolm Storer, the Curator of Coins, reports that he has received from Mr. Robert G. Fuller, of Brookline, a collection of 1,798 coins, among which were some 1,200 duplicates. These duplicates he is disposing of, and has already obtained in their place 40 medals. Other accessions of the year have been the medal of the New York Chamber of Commerce, a medallion of President Eliot by W. H. White, and an old silver Japanese coin from the Japan Club.

The total gifts to the College Library during the year 1903–04 and the previous five years have been as follows: —

GIFTS TO THE COLLEGE LIBRARY.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.	1903–04.
Volumes	7,096	11,360	4,749	4,648	7,358	12,009
Pamphlets	12,448	11,072	14,235	16,230	13,441	14,259
Totals	19,544	22,432	18,984	20,878	20,799	26,268

The greatest gift of the year, and one of the most valuable that the Library has ever received, is the library of the late Konrad von Maurer, Professor of German law in the University of Munich, given to us by Assistant Professor A. C. Coolidge.

In regard to the value and character of the library, I cannot do better than quote from Professor Witkowski, of the University of Leipzig, who, in a series of articles in the Allgemeine Zeitung, bewails the loss to German scholarship of the many private libraries which in recent years have found their way from Germany to America. The loss, he maintains, is irreparable, and cannot be counterbalanced by any corresponding advantage to American scholars. The transfer of the Von Maurer library to America he considers a particularly instructive case, impressing deeply the warning that Germans must not permit further inroads to be made on irreplaceable national possessions. Such expressions bring home to us very pointedly the duty which the ownership of such treasures implies — the duty of making them as widely useful as possible, and of maintaining the collection in serviceable condition.

Of the contents of the Von Maurer library, Professor Witkowski says: —

> "Two generations have labored, since the third decade of the nineteenth century, to gather and to build up, stone by stone, this proud structure. The foundation was laid by Georg Ludwig von Maurer (1790–1872). As a jurist, he devoted himself primarily to Germanic studies, but as statesman, as regent of the young Greek kingdom, and as Bavarian minister, he was led in his interests far beyond the special province of his literary activity, the history of German government and law. Bound by close friendship to Andreas Schmeller, of all German scholars the most profoundly versed in bibliographical matters, the elder Maurer knew how to track hidden treasures with that sportsmanship and passion which distinguish the true collector. Fortune favored him, for, in his youth, as a result of the secularization of the monasteries, the markets were flooded with rare books, and the most valuable editions could be procured for almost nothing. His only son inherited from him his character and scientific inclination, and choosing the northern Germanic countries as his field of study, he was in a position to gather about him the whole literature of his specialty, Old Norse law. An excursion to Iceland in the year 1858 brought him particularly rich booty in old manuscripts and printed books, and the Scandinavian countries placed at the disposal of the greatest historian of their law everything that could be of value in his work.
>
> "Thus was collected this library, which at the death of Konrad von Maurer (1823–1902) numbered 9,937 titles, among which 3,288 related to Scandinavian literature alone. Scandinavian jurisprudence and history of law are certainly nowhere in the world so richly represented as here, with 443 titles, and the same may be said of many other subjects and particularly of the legal monuments of all Germany. In turning over the 432 pages of the printed catalogue, one is struck equally by the collection's completeness and by the abundance of rarities.
>
> "Had one of the centres of German scientific research come into possession of this treasure, not only would a central point for the study of old Norse law have been again created, such as Munich was in Konrad von Maurer's day, but this study would itself doubtless have received a mighty impulse. Can it be supposed that a similar result will follow from the presence of the Von Maurer library in America?"

The Scandinavian section has been brought over from Germany as a whole, and, except for the group of books on Scandinavian law which has been taken by the Law School, will all be retained by the Library after the duplicates have been eliminated. This section alone brings us 2,660 volumes and 2,911 pamphlets. The duplicates in the other sections of the library, including many works of great value, were left in Germany to be sold, while the greater part of the treatises relating to German and especially Bavarian law have been sold to the Bar Association of New York. The remainder was received at the Library in July and numbered 4,794 volumes. The announcement of this gift was made at the opening of the Germanic Museum in November last, on which occasion Professor Coolidge stated that it was his intention to present to the University Library ten thousand volumes on German history in commemoration of the visit to the University of Prince Henry of Prussia in March, 1902. These books are to be known as the "Hohenzollern Collection." The Von Maurer Library will contribute about 2,875 volumes to the collection, and 1,050 additional volumes have already been received, making 3,925 out of the ten thousand. The books have been selected with great care and are for the most part collections of local sources, publications of historical societies, and historical monographs. Unfortunately our shelves are so crowded that it is impossible to give this generous gift a place in the Library building. The books have to be stored in a basement room of Robinson Hall, and there they will have to remain until we have a larger building, unless we clear out an equal number of other books now occupying shelf-room in Gore Hall. From the experience of the last year, it is obvious that a gift of this nature cannot be immediately completed. It is impossible to buy rapidly, and at the same time wisely, in a limited field, for suitable books do not offer themselves in sufficient numbers for purchase. It is therefore likely to be several years before Professor Coolidge's generous intention can be carried out to its fulfilment.

Several hundred volumes from the library of the late J. Elliot Cabot, of Brookline, were presented by his son and executor, Mr. Philip Cabot, who expressed a desire that such as would be of service in the Philosophical Reference Library in Emerson Hall should be given to that library. About a fourth part of the collection was put aside to be kept for the Emerson Hall library, 159 volumes were accepted for the College Library, a number of architectural works were appropriated to the Architectural Library in Robinson Hall, and the remainder had to be disposed of as duplicates. With Mr. Cabot's approval, I put many of these on sale at the Coöperative Society's store marked at almost nominal prices, so that they might fall into the hands of men to whom they would be of service without first appearing in public on the counters of second-hand dealers. I have done the same several times with other library duplicates and find a ready sale for books that it would be difficult to dispose of to advantage in any other way. Another group of Mr. Cabot's books has been set aside to send to the University of Ottawa, whose library was lately destroyed by fire.

Professor Norton has placed in the Library another instalment of the James Russell Lowell manuscripts, including the printer's copy of a number of contributions to the North American Review during Mr. Lowell's editorship. Mr. Lee Jenkins, of Salem, has sent us a package of manuscript lectures of Samuel Williams, Hollis Professor of Mathematics and Natural Philosophy from 1780 to 1788. Mr. F. B. Sanborn, of Concord, has given certain interesting manuscripts of Theodore Parker.

But the most remarkable feature of the year's history has been the number of gifts of moderate sums given by graduates of the College and a few other persons, for the purpose of strengthening the Library's collections in some special subject not sufficiently provided for by the ordinary appropriations. To mention them in alphabetical order, these gifts have been as follows: —

Francis R. Appleton, '75, of New York, $100 to be spent for books under the direction of Professor Kittredge (mainly English literature and folklore).

Lawrence S. Butler, '98, of New York, $50 for books on Paris.

Assistant Professor A. C. Coolidge, '87, and Hiram Bingham, Jr., A.M. 1901, Curator of South American History, $185 for books on South America.

Harold J. Coolidge, '92, of Boston, $100 for books on China (being two annual gifts of $50 each in continuation of previous gifts).

William Bayard Cutting, Jr., '00, of New York, $50 for books on the history of Florence.

Henry S. Hunnewell, '75, of Wellesley, $100 to be spent for books suggested by Professors Gardiner and Robinson.

Adrian Iselin, of New York, $50 for books on Swiss history.

James Loeb, '88, of New York, $100 for purchase and binding of labor periodicals (in continuation of previous gifts for the same purpose).

Mrs. Helen Bigelow Merriman, of Boston, and Dr. Roger B. Merriman, '96, $65 for a special collection of pamphlets on the Thirty Years' War.

Edwin Stanton Mullins, '93, $50 for books on folklore.

Mrs. George Augustus Nickerson, of Brookline, $200 in memory of her husband, of the Class of '76, for books on folklore, and an engraved bookplate for the same.

William Phillips, '00, of the American Embassy in London, $100 for books on London.

Edward M. Shepard, of New York, $50, used to buy an edition of Vitruvius.

John Harvey Treat, '62, of Lawrence, $300 for books on the catacombs and the Christian antiquities of Italy (in continuation of earlier gifts for the same purpose).

Beekman Winthrop, '97, of New York, $50 for books on the Philippines.

The gifts from Messrs. Butler, Cutting, Mullins, and Phillips, and from Mrs. Nickerson are to be continued from year to year for periods of from three to five years.

From the Dante Society we have received a further gift of $150 for the purchase of books on Dante.

Mr. Hiram Bingham, Jr., Curator of South American History, beside sharing with Professor Coolidge the expense of many purchases which he had authorized, entered into correspondence with the officials of many South American governments and with our legations in several South American capitals, and has thus secured for the collection under his charge many valuable publications.

Mr. Harry Nelson Gay, of Rome, Curator of Italian History of the Nineteenth Century, spent for us to excellent advantage, in Rome, the small appropriation placed in his hands, and sent in addition over a hundred volumes and pamphlets as a gift from himself.

Through Mr. Edgar H. Wells, Curator of English Literature, $350 have been received in addition to the $1,455 previously collected by him, for English literature of the eighteenth century.

The English Department appropriated to the use of the Library $400 from the proceeds of plays given under its auspices. This has been spent mainly for early editions of English plays.

Through Assistant Professor J. H. Gardiner we received further subscriptions amounting to $57 for the purchase of Bibles.

Mr. James H. Hyde, '98, of New York, generously supplemented his gift of Professor Bôcher's Molière collection by providing $900 toward the expense of preparing a catalogue of the books and binding such volumes as were still unbound.

I omit any mention of important single works acquired either by gift or purchase, for I hope early in the year to issue, as one of our Bibliographical Contributions, a list of the more valuable recent accessions.

SPECIAL REFERENCE LIBRARIES.

The present extent of these libraries is as follows: —

SPECIAL REFERENCE LIBRARIES.	Permanent.	On Deposit.	Totals.
1. Chemical Lab. *Boylston Hall*	792	983	1,775
2. Physical Lab. *Jefferson Phys. Lab.*	31	369	400
3. Botanical Lab. *University Museum*	586	124	710
4. Geological Lab. *Do.*	124	. .	124
5. Mineralogical Lab. *Do.*	510	230	740
6. Phys. Geography Lab. *Do.*	344	227	571
7. Zoölogical Lab. *Do.*	277	. .	277
8. Classics. *Harvard Hall 3*	3,760	148	3,908
9. History. *Harvard Hall R. R.*	2,582	17	2,599
10. United States History. *Harvard Hall R. R.* . .	881	8	889
11. Political Economy. *Do.* . .	1,273	1	1,274
12. Social Questions. *Do.* . .	927	6	933
13. Child Memorial (English). *Warren House* . . .	4,481	90	4,571
14. Lowell Memorial (Romance). *Do.* . . .	1,498	6	1,504
15. German. *Do.* . . .	1,275	. .	1,275
16. French. *Do.* . . .	2,533	. .	2,533
17. Sanskrit. *Do.* . . .	919	23	942
18. Semitic. *Semitic Museum*	1,301	. .	1,301
19. Mathematics. *Sever 22*	538	80	618
20. Mining and Metallurgy. *Rotch Laboratory* . . .	42	17	59
21. Engineering. *Pierce Hall*	6,255	521	6,776
22. Music. *Holden Chapel*	416	. .	416
23. Philosophy (Psychol. Lab.). *Dane Hall*	669	43	712
24. Education. *Lawrence Hall*	4,937	. .	4,937
25. Fine Arts (incl. Gray and Randall Coll.). *Fogg Museum*	900	. .	900
26. Architecture. *Robinson Hall*	972	13	985
27. Preachers' Library. *Wadsworth House*	95	. .	95
28. The Study. *Phillips Brooks House*	59	. .	59
29. Social Service Committee. *Phillips Brooks House*	77	. .	77
Totals	39,054	2,906	41,960

The largest additions were to the libraries of Chemistry, 171 volumes; History, 293 volumes; English (Child Memorial), 124 volumes; Engineering, 206 volumes; and Education, 361 volumes.

The reading-room in Harvard Hall is still overcrowded, and it is probably true that many men who would naturally use it are discouraged from doing so by the uncomfortable conditions that result from overcrowding. After another year, the library on Social Questions will be removed to Emerson Hall, and more room will be available for both books and readers in History and Economics. The collections in Harvard Hall, amounting to 5,700 volumes, are intended primarily for elementary students. The collections in Warren House (English, French, German, Early Romance, and Sanskrit literature), amounting to over 10,800 volumes, are for advanced students only. In both buildings, the rooms are under the constant charge of attendants, and it is gratifying to record that from Harvard Hall only three volumes have been lost during the year, and from Warren House only two.

Probably over 1,500 men used the Harvard Hall libraries, and 330 had access to those in Warren House.

In order to reduce expenses, it was decided to close Warren House in the evenings. The use of these rooms in the evening had always been slight, the number of readers varying from four or five to seventeen or eighteen, but to these few constant workers it was doubtless a highly prized privilege, and I was sorry to discontinue it.

In the spring, parts of the Classical library were reclassified under Dr. Rand's direction, and in the autumn the arrangement of the collection of meteorology and physical geography, in the Physical Geography Laboratory, was revised with Professor Ward's help.

Through the generosity of Mr. Mallinckrodt, of St. Louis, the Chemical Laboratory was able to increase its library facilities, by refitting its library room, and employing an attendant to take charge of its books. At the Director's urgent request, I have allowed some of the sets of purely chemical journals to be transferred to this library, and the current numbers to be kept on file there. Journals which were of interest to other departments, as well as to the Chemical Department, have been retained here. The question of transferring treatises and books of reference from the shelves of the College Library to the laboratory library was also considered, but it was decided that these should remain in Gore Hall, and that they should be duplicated in the laboratory. The laboratory copies will always be retained in the laboratory for reference; the Gore Hall copies can be borrowed for home use.

The long delayed enlargement of the College Library has had the effect of strengthening these special reference libraries and favoring their development, some on one principle and some on another. Some contain mainly duplicates of what is on the shelves of Gore Hall; others supplement the Gore Hall collection, containing many books that have not been added to the central library. This latter condition occurs when the means of adding to the special library, usually provided by private generosity, have exceeded what could be appropriated from the general income for Gore Hall purchases, or when the personal interest of the professor in charge has for some other reason inclined to his reference library rather than to the collection relating to his subject in the central library. This lack of coördination, involving a division of our resources on accidental lines, is unfortunate, but has been perhaps unavoidable under the circumstances. The normal and more favorable conditions, as seen in some other colleges, would have been for the special libraries to be formed in seminary rooms under the same roof with the central library. Each would then comprise first, as its own property, the essential works that it is convenient to have permanently at hand, these being duplicates of books in the general library, and, second, books transferred freely to the special library from the general collection for temporary use or even for long periods, but subject to the same demand by borrowers (if not duplicated) as when on their original shelves. In this way, advanced students and instructors are given convenient rooms in which to work, more convenient than any places that can be provided for them in a book-stack. In these rooms they have the essential books permanently at hand, while the whole resources of the general library are freely at their service when needed, yet are not thereby withdrawn from more general use, as is necessarily the case with books which belong to a separated special library. Moreover, the fuller collections of the central library are not so apt to suffer by the drawing off of interest and support to a smaller special library. It may be possible to straighten out such complications when the larger building becomes a reality, but each year's delay increases the difficulty of readjustment and saps the strength of the centre while enriching the branches independently. The more natural course is to build up the centre in such a way that its full strength may flow into the branches.

USE OF BOOKS IN THE COLLEGE LIBRARY.

The following table shows the use of books at Gore Hall in 1903–04 as compared with previous years: —

Use of Books.	1897–98.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.	1903–04.
1. Books lent	61,272	63,005	63,712	63,673	58,443	63,183	66,851
2. Used in the building . (Recorded use only.)	27,017	25,595	23,715	24,180	22,583	24,924	23,111
Totals	88,289	88,600	87,427	87,853	*81,026	88,107	89,962
3. Over-night use of Harvard Hall Reading-room	11,938	12,046	13,460	13,566	13,594	13,164	12,644

* The decline in the figures for this year is probably to be ascribed to errors in the statistics.

Of the constant use of the reserved books in the reading-room, and of the collections of reference books, periodicals, and United States documents, freely accessible to all, no record is possible. The use of the reading-room has, however, increased so much in the last few years that it has become necessary to add a second attendant at the desk. Mr. Briggs, who had been Superintendent of the reading-room since 1894, resigned in June to take the position of Reference Librarian in the Brooklyn Public Library. He had managed the room with admirable firmness and courtesy and in the most helpful spirit, and his acquaintance with the books most used by students was so thorough and so ready that his loss cannot easily be made good. He is succeeded by Mr. Charles A. Mahady, who has had useful preparatory experience in the delivery-room, and has had charge of the reading-room three evenings in the week for five years.

The extent of the open reading-room collections and their growth is shown in the following table: —

Open Collections.	1899–00.	1900–01.	1901–02.	1902–03.	1903–04.
Bound Periodicals	3,275	3,140	3,210	3,266	3,341
Reference Books	4,224	4,235	4,393	4,471	4,645
Reserved Books	10,134	10,557	10,141	10,398	10,514
U. S. Documents	3,887	4,698	4,389	4,523	4,300
Totals	21,520	22,630	22,133	22,658	22,800

The number of bound periodicals keeps about the same because the shelf room for them is limited, and as the collection receives its necessary yearly increase, one set after another has to be removed to the stack. The number of the United States documents has diminished for the same reason.

The books shelved in the reading-room, together with those in the various special reference libraries in Harvard Hall, Warren House, and elsewhere, amount altogether to about 65,000 volumes to which direct access can be had by all students to whom they are of value. In addition the library of the Harvard Union now offers to its members over 7,000 books, mainly literature, biography, history, travel and sport.

Cards of admission to different sections of the book-stack continue to be given, on recommendation of an instructor, to all advanced students who need to go directly to the shelves for purposes of investigation in connection with their work. Such students have the same facilities for the examination and study of all the resources of the Library, in their chosen departments, that the officers of instruction enjoy. The use of these cards of admission to the book-stack is shown in the following table: —

ADMISSION TO THE BOOK-STACK.	1896–97.	1897–98.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.	1903–04.
History	54	51	78	112	81	90	118	92
Science	11	33	43	30	36	37	45	38
Art and Archaeology (including Music)	18	34	38	33	33	55	46	42
Literature	64	90	90	85	74	80	125	144
Classics	41	52	60	70	58	70	73	62
Philosophy	4	11	19	19	22	27	31	22
Theology	1	3	5	1	1	14	2	9
Economics and Sociology	4	9	12	13	13	16	33	26
Education	5	2	8	4	7	4	25	10
Geography	8	14	2	3	9	15	6	7
Publ. of Learned Societies	..	..	..	..	16	8	7	6
Totals	210	299	355	370	350	416	511	458
Times of use	4,381	5,750	5,826	6,898	6,067	5,551	6,244	6,413

The number of individuals admitted was 315, not 458 (last year 366, not 511), because the same person often receives permission to use different parts of the book-stack. The number last year had increased so much that I was obliged to warn the professors who recommend students for admission that more were being received than could find room to work. The result is some falling off in the number, but even 300 persons, in addition to the officers of the University, are more than can be freely admitted without causing some inconvenience. The natural tendency, when a man has a long investigation in hand requiring access to many books, is to plant himself for hours, or even days, at one of the little tables nearest the row where most of his books are, yet this cannot be done without keeping out others who have an equal right to the same privilege. I have had to post notices reading: "Students who have access to the stack are reminded that the tables here, being few in number, must not be used for protracted study or writing. Such work should be done in the reading-room." Yet it is perfectly evident that such work often cannot be done in the reading-room, where no conveniences can be provided for continued work, for the keeping of private papers and writing materials, and for shelving books wanted by an individual for constant use during a few days or weeks. Such opportunities can only be enjoyed when each department has its own study rooms for advanced work under the same roof with the Library.

In the course of the year the temporary use of the Library has been granted to 134 persons not connected with the University, who have come to Cambridge for purposes of study. As in other years, frequent applications for the loan of books have been received from other libraries, especially college libraries, and from scholars in distant parts of the country, and the Library has sent away 742 volumes in response to these requests.

The Sunday use of the reading-room is shown in the following table. The room is open, to readers only, every Sunday in term-time from one to half-past five in the afternoon.

SUNDAY USE.	1896–97.	1897–98.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.	1903–04.
Sundays open	35	35	35	35	35	36	35	36
Users	5,010	4,635	5,093	4,846	5,471	4,909	5,073	4,678
Average	143	132	145	138	156	136	144	129
Highest number . . .	227	297	260	236	226	225	227	173

The decline in the average number of readers is doubtless due to two causes, the existence of other opportunities for quiet enjoyment on Sunday afternoon, such as the library of the Union and the gatherings in Phillips Brooks House, and the permission to borrow reserved books from the reading-room on Saturday afternoon or evening to be kept out over Sunday.

SHELF DEPARTMENT.

Mr. Frank Carney, who has charge of the current work of the shelf department, reports 15,213 volumes permanently located in the stack during the year, 11,089 added to classes previously arranged, and 4,124 in sections newly classified, making 326,122 volumes so placed of the entire Gore Hall collection. In addition the books on South American history (1500 volumes) have been reclassified.

The newly classified sections are the following: —

Education	3,890
Egypt (Modern)	234
	4,124
South America (reclassified)	1,500
	5,624

The classification of Education has been in progress for several years, but has been delayed partly by my own failure to take the time to revise the work as blocked out by Mr. Carney, and partly by the pressure of work in the department.

The books on South America have been reclassified and renumbered at the expense of Mr. Bingham, whose interest in the subject and whose purpose to obtain considerable additions to the collection induced him generously to take up a task that was at the time beyond the means of the Library. By the removal of these books from their place on the third floor of the East stack to the lower floor of the West stack, space has been gained for the expansion of North American history. The new numbering scheme that has been applied agrees in principle and general form with that used for all classes that have been classified here since 1883. Unfortunately the first sections of the Library which were reclassified (between 1877 and 1882), including American history, English history and literature, French history and literature, German history and literature, Philology and Folklore, were all numbered on the "fixed-location" plan, that is, the number indicated a particular shelf, not a special subject or subdivision. This has naturally broken down in many places, and is bound eventually to break down everywhere. Like all libraries that have tried to continue a system of this kind through many years, we have been forced to let it slip over into the other or "relative-location" system, making the number which originally indicated a particular shelf now indicate the particular subject which was originally on that shelf, and allowing the books under that number to stretch along over as many shelves as they will. This transformation is easily accomplished and proves fairly satisfactory when the numbers on the shelves follow in numerical sequence with the order of subjects. Unfortunately this is not the case with us. The books are naturally arranged in each row from left to right. The numbering of the shelves, however, was always from the north side of the building to the south side, so that in every alternate row the numbers run from right to left, or in the reverse direction from the natural succession of subjects. This was of no consequence so long as the books remained on the shelves originally intended for them, and the numbers still indicated particular shelves. Indeed, there was a certain convenience in always having the lower numbers on the north end of the row, and the higher on the south end, and one could almost go to the shelf indicated with one's eyes shut. But just as soon as this system broke down by the filling up and overflowing of the shelves, and the time came when the numbers were accepted as subject numbers and not shelf numbers, the books had to be arranged in the order of the numbers, and the unhappy result follows that blocks of fifty or sixty shelves, still standing in the order in which they were intended to stand, alternate with blocks of fifty or sixty shelves in which the books are in the reverse order, yet not completely in the reverse order, but reversed group by group according to the arrangement of the shelves in sections.*

In a library that pretends to be classified and to attach importance to the subject of classification, such a condition is simply intolerable, yet it is the condition to which we have come in many separate parts and to which we are bound to come everywhere throughout the classes numbered on this system. These classes contained 70,000 volumes in 1883 when this method of numbering was given up. These same classes have since grown to over 116,000, yet the fact is to be faced that every volume must eventually be renumbered to save the whole from falling into confusion. Every year that this work is postponed increases the difficulty and expense, since accessions have to be numbered on the same old plan until the whole is changed. Austrian history was redeemed several years ago and changed over, South American history has been looked after by Mr. Bingham, and German history has been taken up by Professor Coolidge, and is being reclassified and renumbered (in part at his own charge) as an almost necessary preparation for incorporating with it the large addition which the "Hohenzollern Collection" brings. I say reclassified as well as renumbered, for though the renumbering is the essential thing, it is easy to make changes in classification at the same time, and with the experience of the last twenty years' work behind us, very real improvements can be made.

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* To make this confusing result more easily understood, take a particular example. The second row of the third floor (numbered 23) is composed of nine sections, and each section contains, let us say, seven shelves, the whole numbered from right to left (or north to south), but the order of the books as originally arranged was naturally from left to right, that is, the succession of shelves *by subject* ran 2391–2397, 2381–2387, 2371–2377, 2361–2367, 2351–2357, 2341–2347, 2331–2337, 2321–2327, 2311–2317. When the row became so crowded by irregular growth that it had to overflow into the next row, and the shelf signification of the numbers was lost, the books had to be re-arranged in order of numbers and to take the new order 2311–2317, 2321–2327, 2331–2337, etc. Nothing more confusing or more violently destructive of the original system of classification could be imagined. In the next row, on the other hand, the shelves, still numbered from north to south, run from left to right (because the row faces in the opposite direction) and coincide with the succession of subjects. In every alternate row the difficulty recurs, but since the books of each row, no longer confined within their original limits, spread over an indefinite space, no help is to be had even from this apparent regularity in the recurrence.

The crowded condition of the shelves continues to impede progress and demands that constantly more and more time be given to shifting shelves and to contriving how to squeeze out a little more free space at different points. The 50 shelves reported last year as containing double rows of books have increased to 185; 3,800 shelves (instead of the 2,600 of last year) have been shifted so as to get free space where it is wanted; South American history has been moved from the third floor, and Swiss history and Dutch history from the fifth floor, of the East stack to the first floor of the West stack to make room for expansion, displacing the Directories and Registers (1,932 volumes) which have been moved into the basement of Robinson Hall. Most of the books previously moved to Robinson Hall have been boxed up to make room here for the Von Maurer books. With 3,729 volumes and bundles of newspapers in the basement of Perkins Hall, 3,539 volumes of recent gifts boxed up in Robinson Hall, 1,932 volumes of Directories and Registers, 5,370 volumes of Von Maurer and Hohenzollern books, and 123 volumes of earlier Canadian documents on shelves in the basement of Robinson Hall, and 3,570 volumes of medical books sent to the Medical Library in Boston, we have sent into exile altogether 18,263 volumes. Keeping watch on how much these books are missed, I find that in the course of the year we have had to send 70 times to Perkins Hall and 38 times to Robinson Hall, while requests for the books sent to the Medical Library are so frequent as to cause annoyance at the delivery desk, the old marks not having been cancelled on the cards in the public catalogue.

The loss of 92 volumes in the course of the year is reported, 46 from the stack, 35 from the reading-room, and 11 from the shelves for new books in the delivery-room. On the other hand, 34 books reported lost in previous years have been recovered. The net loss in twenty-one years has been 1,011.

CATALOGUE DEPARTMENT.

Mr. Currier, in charge of the catalogue department, presents the following facts and figures in regard to the work of this department.

The necessary retrenchment in expense fell most heavily on the catalogue department. The problem of cataloguing greatly increased accessions by a diminished staff was met by three modifications in our plan of work, all undesirable, but thought to be the least harmful that we could devise to suit the conditions.

Catalogue Work.	1899–00.	1900–01.	1901–02.	1902–03.	1903–04.
Titles catalogued for College Library:					
Full and complete work	6,539	6,727	9,226	8,517	8,842
Continuations, analytical entries, etc.	3,037	5,958	4,263	4,450	5,573
Incomplete work	3,813	11,484	2,936	3,373	6,301
Total	13,389	24,169	16,425	16,340	20,716
Titles for Dept. and Special Libraries	2,378	3,361	6,594	3,846	4,121
Total titles catalogued	15,767	27,530	23,019	20,186	24,837
Cards added to Catalogue:					
Printed cards —					
College Printing Office	16,736	16,857	16,555	18,135	11,827
Library of Congress	. . .	. . .	2,700	5,440	7,011
A. L. A. Publishing Board . . .	2,616	6,849	3,709	4,076	5,916
Total	19,352	23,706	22,964	27,651	24,754
Written cards	6,703	6,597	8,455	6,728	15,570
Total	26,055	30,303	31,419	34,379	40,324

1. The number of titles printed by the College printing office was cut down and written cards substituted. The advantage of the printed card is that it is more legible and more compact, and that duplicate copies are to be had at very slight expense for insertion in the subject catalogue, for references in the author catalogue, for posting on the bulletin board, and for distribution to department libraries, to professors, and even to other libraries. The change to written cards has naturally been made where the least necessity for duplication existed.

2. We have thrown more of the labor of cataloguing department books on the department libraries. The theory is sound that all books added to the department or special reference libraries should be recorded in the central library as completely as if they belonged here, and that books belonging here should be recorded in the catalogue of the department library if they relate to the subject of the department. This theory we have tried for many years to carry out as consistently as we could, but this year we have had to be satisfied, in most cases, with making for department books simply an author entry on the official catalogue of this Library, omitting all record of the books on our public catalogue, and leaving the department librarians to make cards for their own catalogues. This works less injury to the department libraries than it would have done

ten or twenty years ago, for more of them have competent librarians, cataloguers or attendants of their own than was the case then; but the loss to the central library is not to be lightly regarded. We have, however, continued to catalogue in full some of the more important works received.

3. The abbreviated work on our regular cataloguing has been further extended and somewhat modified so as to obtain as satisfactory a result as possible. In the last few years we have had to be content to treat a good many titles summarily, giving each a single entry only on the official catalogue and omitting them entirely on the public catalogue. We have tried to improve upon this by reviving a method of "short cataloguing" resorted to many years ago when it was desired to finish up in as short a time as possible several thousand titles of old pamphlets, sermons, etc., which had never been entered on the public catalogue, though received in the Library long before that catalogue was begun (in 1864). Of these methods Mr. Currier says: —

> "The entry on the official catalogue only is unsatisfactory, because the titles are not available to the public, and again because the work is often unsatisfactory in itself, for it is done without investigation and without making cross references other than those which are imperatively demanded. This leads to confusion through the entry of anonymous books under the title even when the author can easily be found, to the entry of one man's works in two places when his name is given in different forms, and to the entry under one name of the works of two different men, etc. The consequence of this is that not only do students fail to find what they seek, but the chance of acquiring duplicates is largely increased. For books treated thus, if belonging to the unclassified sections of the library, the subject side is entirely neglected. It was therefore decided to take up the method of short work practised some years ago, and prepare cards for the public catalogue as rapidly as possible, with little or no bibliographic investigation. Some changes were made from the methods in vogue at that time. First, the main entry for these titles is written on a red-edged card, in order that at a future time the cards may be easily picked out for more careful revision. Other than this, no memorandum is kept of the titles so treated. Second, instead of making only an author card for these books, subject cards are copied wherever the subject heading can be indicated without too great labor, and whenever it is thought that a book would lose its usefulness by not appearing in the subject catalogue. Very technical books have no subject cards, as these are often difficult to classify and are in most cases well indexed in special bibliographies. The books in the unclassified sections of the library should be more freely entered on the subject catalogue than those well classified on the shelves. Manuals and popular treatises should always receive

subject entry because wanted by the person unacquainted with the field of knowledge concerned. Such persons go to the subject catalogue for books of this sort when they would not think of going there for books in their own fields of research. The bibliographic work done on each title is reduced to its minimum, size and pages are not noted and illustrations only when prominent, anonymous books are looked up in one or two likely places — but no research is done; some trouble is taken to distinguish authors of the same name in order to avoid confusion in the future, but no time is spent hunting for fore-names of an author. Work of the sort just described, performed rapidly but not carelessly, is in a very large percentage of cases fully as useful to the user of the catalogues. Cases will probably arise in the future where trouble will result from these abbreviated methods. The rarity of such cases will depend in large degree on the good judgment and general knowledge displayed in doing the work.

"The figures of the statistical report show that the number of Gore Hall books added to the public catalogue has been 15,604 this year, against 11,094 last, and 11,766 in 1901–02 — an increase of nearly 30% this year over last.

"This increase is due to several causes, to the cataloguing of 900 Molière titles, made possible by Mr. Hyde's gift, to the reduction in time spent on department work, to the introduction of temporary work, and to the increasing use of Library of Congress cards. These changes, enabling us to push along with the minimum delay the department books and the older and more puzzling books, left more time for the remainder from which many difficult books had thus been weeded out, and increased the number of Gore Hall books permanently disposed of."

Professor Bôcher's Molière collection has been catalogued by Mr. Ernest L. Gay under careful supervision by Mr. Currier, and is ready for the printer as soon as he is free to take it.

The Riant collection brought us many editions of Tasso; a number more have been lately added, so that we now have the rather surprising number of 246 editions and translations. These have been catalogued, partly by our own force, partly by Mr. R. B. Michell, who was last year Instructor in Romance Languages. Mr. Michell has added interesting notes on the characteristics and relations of the several editions, and the whole will be printed at an early opportunity. The printing of such lists as these of Tasso and Molière, like the printing of the Dante catalogue some years ago, makes it possible to remove from the card catalogue the corresponding entries under Tasso, Molière, and Dante. Cards representing a few standard editions suitable for general use remain in the catalogue, and additions made after the printed lists are complete are added as they come in.

The use of the printed cards furnished by the Library of Congress continues to give satisfaction and to be a great saving in expense. 7,011 of these cards have been used in the catalogue, against 5,440 the previous year, and the total cost of the cards, including duplicates for other departments, has been but $81.93 ($64.52 last year). The increasing use of these cards and of the cards issued by the A. L. A. Publishing Board for articles in various periodicals, society transactions, government documents, etc., is shown in the following table expressed in percentages: —

	1899–1900.	1900–01.	1901–02.	1902–03.	1903–04.
Printed cards, —					
From the College Printer . . .	64.2	55.6	52.7	52.7	29.3
From the Library of Congress . .	. .	. .	8.6	15.8	17.4
From the A. L. A. Publ. Board .	10.1	22.6	11.8	11.9	14.7
Written cards	25.7	21.8	26.9	19.6	38.6

The very large decrease in cards from the College Printer in 1903–04, and the very large increase in written cards is due to the special necessities of that year, and it is to be hoped may not be permanent.

ORDERING DEPARTMENT AND FINANCIAL CONDITION.

The table on the next page shows the income of our book funds, receipts from other sources for the purchase of books, and expenditure for books during the last six years.

The balance of $4,093 on the Treasurer's accounts would seem to show that our expenditure had been well within our income this year, but an unusually large number of bills ready just at the end of the year were necessarily passed over to the beginning of the next year, so that if allowance is made for unpaid bills at the beginning and end of the year, it is found that in each of the last four years our purchases have exceeded the income of our book funds by sums varying from $500 to $1,000, so that a free balance carried over in 1900 of nearly $4,200 has been diminished in 1904 to a little under $1,200. This fact, with the withdrawal of about $1,000 from the income heretofore assigned by the Corporation to book purchases, made it necessary for the Library Council this autumn to make its appropriations on even a more restricted basis than last year. The year upon which we are entering will still be a heavy one, since several thousand of last year's accessions arrived just at the end of last year and have to be provided for in this year's plans.

Income and Expenditure.	1898–99.	1899–00.	1900–01.	1901–02.	1902–03.	1903–04.
From book funds, —						
Balance from previous year .	$737	$5,028	$5,176	$4,547	$4,021	$3,197
Income of the year	18,301	18,510	19,279	19,944	19,450	19,970
Total available	19,038	23,538	24,455	24,491	23,471	23,167
Spent for books	14,010	18,362	19,908	20,470	20,274	19,126
Balance to next year	5,028	5,176	4,547	4,021	3,197	4,041
Special gifts, sales, etc. —						
Balance from previous year .	839	2,940	936	1,932	2,276	1,835
Received during the year . .	3,906	5,137	6,115	3,411	4,457	4,927
Total available	4,745	8,077	7,051	5,343	6,733	6,762
Spent for books	1,805	7,141	5,119	3,067	4,898	4,988
Balance to next year	2,940	936	1,932	2,276	1,835	1,774
Total spent for books, —						
College Library	$15,815	$25,503	$25,027	$23,537	$25,172	$24,114
Department Libraries (books ordered through Coll. Lib.)	3,869	4,748	4,484	7,245	7,389	6,214
Total	$19,684	$30,251	$29,511	$30,782	$32,561	$30,328

The work of the ordering department, in charge of Mr. Potter, is summed up in the following table, which gives the figures of the last three years and the averages of two previous five-year periods.

Work of Ordering Department.	1890–95. Average.	1895–1900. Average.	1901–02.	1902–03.	1903–04.
New orders, —					
Total received and examined . . .	5,132	7,327	10,716	13,566	17,397
Already owned or ordered	1,193	1,725	2,826	4,921	6,930
Forwarded	3,800	5,036	6,696	8,477	11,041
Estimate of cost, —					
For the College Library	$9,079	$10,145	$14,590	$14,982	$16,995
For Departments	2,902	3,223	4,956	4,621	3,512
Total estimated cost	11,981	13,368	19,546	19,603	20,507
Shipments received from abroad . .	28	33	69	76	81
†No. of vols. bought for College Lib.	4,416	5,736	7,400	7,731	7,870
‡Total gifts examined and passed on	16,050	16,455	20,878	20,799	26,268

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† Excluding volumes formed by binding periodicals and pamphlets, but including volumes received on exchange account from other libraries.

‡ Including both volumes and pamphlets. See p. 214.

The figures given under "New orders" include work done on the Von Maurer library in looking up the titles of the Von Maurer catalogue on our own catalogues, selecting those wanted, and dispatching the orders. The estimate of cost ($16,995), however, does not include these titles, as they were not paid for by the Library. It would have been quite impossible for Mr. Potter and his assistants to have carried the extra burden involved in accepting the Von Maurer library, and in selecting and buying books for the Hohenzollern Collection, had not Professor Coolidge very generously provided for a great part of it by employing Mr. Walter Lichtenstein, who has had full charge of looking up the Hohenzollern orders, and of receiving and checking off the books for this collection on their arrival. He has also, with additional assistance employed by the Library, checked off and arranged the Von Maurer books (except the Scandinavian section) when they arrived in the summer, and he is now engaged in classifying them.

Mr. Potter reports in regard to the work of the year: —

"There has again been a large increase in the amount of work to be carried on by the department. In my report of last year, I spoke of the great increase of work, and then gave figures showing the percentage of this increase over the two years previous. It was shown that the number of orders had at that time increased 33%, and the number of 'duplicates' (titles suggested for purchase which are found to be already in the Library or ordered) 96%. It seemed as though effective work by the staff as then constituted was impossible, and that it was inevitable that the work should fall behind. Some additional help was given to the department, but not enough to keep pace with the still increasing work. The number of orders handed in has increased 66% since three years ago, and the number of 'duplicates,' 165%. This constantly increasing proportion of duplicates to the number of orders handed in is a very serious matter. It seems, however, unavoidable with the growth of the Library, and especially with the greater use made of second-hand catalogues. In 1900–01, about 25% of the orders received proved to be duplicates; now 40% are duplicates. We have again fallen badly behind in the work, and the sending of orders has often been five or six or even more weeks in arrears. In a single day several hundred orders may be handed in, and perhaps on the following day as many more; and with large shipments of books coming at the same time, it is impossible, with the staff at our command, to avoid a long delay in forwarding these orders, vexatious as it may seem. Of course, the purchase of the Von Maurer library last year meant a great amount of work for the department; although the looking up of this collection was mostly done by special help, the consultations and correspondence incident to its purchase took a very considerable portion of my time. The special gifts, such as those for books on London, Paris, and other subjects, also necessitate that much time be devoted to reading catalogues, etc., although I could not give to this as much attention as would have been desirable.

"At the beginning of the year we made a change in the system of keeping accounts. The old book, in which the items charged against each fund were entered, had grown unwieldy through the increased number of funds, gifts, and departments. We therefore adopted a system of cards, — a card for each separate account. At the same time, we did away with the old scrap-book in which the invoices were pasted numerically, and adopted a series of files, keeping them alphabetically according to agent. On the whole, this new system has proved very satisfactory.

" We have bought fewer books at auction this year than in recent years, mainly through lack of time to go through the catalogues and make up the bids. We have continued the policy of delaying the purchase of many of the more expensive English and American books until they can be picked up either as remainders or in the second-hand market. This plan, for general works of travel or biography and other books for which there is no immediate demand, has proved very successful. As a general thing, we are able to buy such books at from one third to one half of the original price, and often within less than a year after publication. Of course there is a danger of the books being overlooked entirely, and of their going out of print and not turning up at all in the remainder or second-hand market; but the great economy of this method outweighs this disadvantage."

The accessions of the year have included the usual number of expensive works ordered on a special appropriation with the approval of the Library Council, among them, the Atti e memorie of the Academy of Mantua from 1868; the Journal of the Muséum Godeffroy, 5 vols., 1873–1902; the Monumenta ecclesiae liturgica, lately inaugurated in Paris by Cabrol and Leclercq; Lobineau's Histoire de Bretagne, 1707, 2 vols., and Morice's Histoire ecclésiastique et civile de Bretagne, 1750–56, 2 vols., with Mémoires, 1842–46, 3 vols.; Allen's Early Christian monuments of Scotland, and Gallway's great illustrated work on the crossbow; the first two parts of the series of Selected drawings from old masters in the Oxford University galleries and in the library of Christ Church; Berenson's Drawings of the Florentine painters; Migeon's hundred plates illustrating the Exposition des arts musulmans in Paris in 1903; the great work on Oriental carpets, published by the Austrian Commercial Museum; the splendid facsimile of the Breviarium Grimani of the library of St. Mark in Venice; a copy of Tyndale's New Testament of 1550; and other similar works, most of which I expect to mention in more detail in a list to be issued shortly. The additions to the Folklore collection have been unusually large, due to the gifts of

Mrs. Nickerson and Mr. Mullins, many of the books being early works on alchemy. The additions to the Ottoman collection have also been numerous and interesting.

THE ARCHIVES AND THE HARVARD COLLECTION.

Mr. P. H. Tufts has continued in charge of the Archives and the collection of printed matter relating to the University, but work on these two collections continues reduced to its lowest limits. We only try to keep in order the accessions currently received and to prevent the work from falling seriously behind.

WILLIAM COOLIDGE LANE,
Librarian.

THE GRAY HERBARIUM.

To the President of the University: —

Sir, — During the academic year 1903–04 the staff of the Gray Herbarium has consisted of a curator, two trained botanical assistants, occupied chiefly in determinative and monographic work, a librarian, a collector, and an assistant engaged in the mounting of specimens. The services of Mr. F. Schuyler Mathews and Mr. P. B. Whelpley as artists were temporarily secured, and Mr. J. R. Johnston was employed during a part of the summer of 1904 in the sorting of specimens.

The accessions during the year were unusually extensive, the more noteworthy being as follows: — (1) By gift or in exchange: from the United States Department of War, through Mr. E. D. Merrill, 912 plants of the Philippine Islands; from the California Academy of Sciences, 363 plants of California and 54 plants from the islands off the west coast of Mexico; from Bates College, 2748 specimens of the genus *Carex* from the herbarium of Chester Dewey, one of the early American specialists on this difficult group; from the United States National Museum, 179 plants of Mexico for identification; from the New York Botanical Garden, 147 plants from the Rocky Mountains; from the Missouri Botanical Garden, 434 plants of the Gulf States, being duplicates from the herbarium of the late Dr. A. W. Chapman; from Professor C. V. Piper, 265 plants of Washington State; from the Arnold Arboretum, 261 plants of the Rocky Mountains collected by Mr. J. G. Jack, and 153 herbaceous plants from China; from the Field Columbian Museum, through Dr. C. F. Millspaugh, 78 plants, chiefly from Yucatan; from Mr. J. H. Maiden, Government Botanist at Sydney, 198 plants of New South Wales, including many critically identified specimens of the difficult genus *Eucalyptus;* from Mr. T. S. Brandegee, of San Diego, 70 plants of Mexico and 60 from the Yukon district; from Professor F. Buchenau, of Bremen, 196 of the rarer plants of Europe from the Baenitz Herbarium; from the University of California, 219 plants of California; from Mr. Warren H. Manning, 200 specimens of grasses; from Miss Susan Minns, 162 miscellaneous duplicates, including many European grasses identified by the well known specialist, Professor E. Hackel; from Chaplain D. H. Tribou,

U. S. N., 51 plants of South Africa; from the Botanical Museum of Harvard University, 259 plants of Texas, collected by Mr. B. H. A. Groth, 138 plants of Australia, the 2nd fascicle of Neuman, Wahlstedt, and Murbeck's *Violae Sueciae Exsiccatae*, 227 plants of California, collected by Mr. J. G. Lemmon, and 76 miscellaneous duplicates; from the New England Botanical Club, 313 duplicates; from Mr. M. L. Fernald, 1241 plants of Maine to be used as exchanges. (2) Obtained by purchase: 248 plants of Missouri, collected by Mr. B. F. Bush; 380 plants of the Pacific Slope and 118 from Nicaragua, collected by Mr. C. F. Baker; 396 plants of Washington State, collected by Mr. F. Kreager; 305 plants of Virginia and West Virginia, collected by Mr. E. S. Steele; 695 plants of California, collected by Mr. A. A. Heller; 120 specimens of ligneous plants in continuation of Professor E. Koehne's valuable *Herbarium Dendrologicum;* 404 plants of the Gulf States, collected by Professor S. F. Tracy; 153 plants of Jamaica, collected by Mr. G. E. Nichols; 208 plants of the West Indies, collected by Mr. A. H. Curtiss. (3) Collected by members of the staff: by Mr. C. G. Pringle, 588 of the rarer and imperfectly known plants of the uplands of Mexico; by Mr. J. R. Johnston, the vascular plants collected on an expedition mentioned in the last report, amounting to 2960 specimens from Margarita Island, Venezuela, and 231 specimens from Trinidad; by Mr. Fernald, 5401 plants from Gaspé Peninsula, Quebec; by Miss Day, 180 plants of New Hampshire.

The entire number of specimens received during the year was 26,430. The number of mounted sheets of specimens added to the organized portion of the Gray Herbarium was 13,729. The Library of the Herbarium has been increased by 521 books and 244 pamphlets.

The historically important Dewey Herbarium, briefly mentioned above, was obtained from Bates College by a mutually profitable exchange arranged by Mr. Fernald. Besides the type-specimens of Dewey's own species of *Carex* the herbarium contained many types, co-types, and authentic specimens from the other early American caricologists, as well as some interesting European material. In return for the collection, the Gray Herbarium sent to Bates College a well selected and carefully mounted working herbarium of about 2,000 sheets.

In January the Gray Herbarium assumed the responsibility for the continuation of an extensive card catalogue of new species and varieties of American plants. This index, one of the most important bibliographical aids to students of American botany, had been carried on and published by Miss Josephine A. Clark, Librarian of the Department of Agriculture at Washington, who, through pressure of other duties, was unable to continue this work. When its publication was transferred to the Gray Herbarium the catalogue contained about 28,000 cards. During the remainder of the academic year 3,501 cards were printed and issued. While from its nature this work is important chiefly to American botanists, several of the larger European botanical establishments are among the subscribers, and the subscriptions are adequate to cover the expenses of clerical labor and printing required for its publication. The work is in charge of Miss M. A. Day, Librarian of the Gray Herbarium.

In June the botanists of the Gray Herbarium, the Cryptogamic Herbarium, and the Botanical Museum of Harvard University published, with the endorsement of the New England Botanical Club, a series of amendments to the Paris Code of Botanical Nomenclature for the consideration of the International Botanical Congress to be convened at Vienna in June, 1905. Several of these amendments have subsequently received the endorsement of the botanical staff of the British Museum of Natural History.

Three courses of instruction in Harvard College were given by members of the Herbarium staff, namely, a course on the local flora of New England and the Maritime Provinces of Canada, by Mr. Fernald; a half-course on Botanical Geography, by Dr. Greenman; and a research course on phanerogamic taxonomy, by the Curator.

During the summer Mr. Fernald, accompanied by Mr. J. F. Collins, of Brown University, and Mr. A. S. Pease, of Harvard University, made an exceptionally profitable collecting trip to Gaspé Peninsula, visiting regions not hitherto explored botanically. Dr. Greenman, accompanied by Mr. A. H. Moore, spent the month of September in the mountains of West Virginia in collecting for the Herbarium, greatly amplifying its representation of the flora of this region. The Curator collected about 400 specimens in central Illinois, to be used as exchange material.

A block of eight steel cases, with a united capacity of about 16,000 herbarium sheets, was set up early in the academic year, being the gift of a liberal anonymous patron. The use of steel in the construction of herbarium cases is an innovation, and it is gratifying to report that these cases have proved highly satisfactory in all respects. In their fire-proof and air-tight character (permitting the direct fumigation of the specimens by carbon bisulphide), as well as in their compactness, durability, and ease of access, they are much superior to any other form of herbarium case yet invented.

Mr. C. G. Pringle has continued his collecting in Mexico with the same success which has for many years rewarded his untiring labors in difficult botanical field-work.

Again, with its necessary expenses much in excess of its small income, the Gray Herbarium has been able, through the financial aid of many generous patrons, to complete its year without deficit. This result could not have been attained but for the devotion and liberality of the Visiting Committee.

The gifts for present use, which are specifically acknowledged in the Treasurer's Report, amounted to $5,250. A gift of $100 from Mr. E. F. Williams was received, to supplement the Gray Memorial Fund.

In the death of Mrs. Warren B. Potter, for some years a member of the Visiting Committee, the Herbarium lost a friend of great generosity, whose repeated gifts have been of the utmost importance in maintaining the work of the establishment.*

In regard to the crowded condition of the Herbarium building, the following words from last year's report may be quoted with increased emphasis: "The great need of the Herbarium is a new and fireproof building of ample size for the safe preservation of its scientifically invaluable but now dangerously congested collections. The floor cases, which it has been necessary to add from time to time, have now so largely filled the space in the Herbarium building that the work of sorting and distributing specimens is carried on only with the greatest difficulty, and it is no longer possible to offer to the numerous visiting specialists adequate or well-lighted table space for comfortable work."

During the year the staff of the Herbarium has published thirty-two papers, of which the more important are as follows: —

Arabis Drummondii and its Relatives. By M. L. FERNALD. *Rhodora*, V, 225–231.

Contributions from the Gray Herbarium, N. S., No. XXV. New and otherwise noteworthy Angiosperms from Mexico and Central America. By J. M. GREENMAN. *Proc. Am. Acad.*, XXXIX, 69–120.

Insecticides used at the Gray Herbarium. By B. L. ROBINSON. *Rhodora*, V, 237–247.

A new Kobresia in the Aroostook Valley. By M. L. FERNALD. *Ibid.*, 247–251.

Contributions from the Gray Herbarium, N. S., No. XXVI. A Revision of the Genus Flaveria. By J. R. JOHNSTON. *Proc. Am. Acad.*, XXXIX, 279–292.

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* Mrs. Potter's important bequest to the Gray Herbarium, greatly increasing its endowment, was announced after the close of the academic year, and an account of it must, therefore, be deferred until the Report for 1904–05.

Two allies of Salix lucida. By M. L. FERNALD. *Rhodora*, VI, 1–8.

Preliminary Lists of New England Plants, — Juncaceae. By M. L. FERNALD. *Ibid.*, 34–41.

Contributions from the Gray Herbarium, N. S., No. xxvii. By B. L. ROBINSON. I. Diagnoses and Synonymy of some Mexican and Central American Eupatoriums. II. Synopsis of the Mikanias of Costa Rica. III. Notes on the Genus Mimosa in Mexico and Central America. IV. Notes on some Polygonums of western North America. V. New Spermatophytes from Mexico and Central America. *Proc. Bost. Soc. Nat. Hist.*, XXXI, 247–271.

The Identity of Anychia dichotoma. By B. L. ROBINSON. *Rhodora*, VI, 50–53.

Notes on Southwestern and Mexican Plants. By J. M. GREENMAN. *Bot. Gaz.*, XXXVII, 219–222.

New Species of Mexican Plants. By J. M. GREENMAN. *Zoe*, V, 183–187.

The Identity of Michaux's Lycopus uniflorus. By M. L. FERNALD. *Rhodora*, VI, 134–137.

The Green Alders of New England. By M. L. FERNALD. *Ibid.*, 162–163.

Contributions from the Gray Herbarium, N. S., No. xxviii. I. Revision of the Genus Sabazia. By B. L. ROBINSON and J. M. GREENMAN. II. Revision of the Mexican and Central American Species of Trixis. By B. L. ROBINSON and J. M. GREENMAN. III. Revision of the Mexican and Central American Species of Hieracium. By B. L. ROBINSON and J. M. GREENMAN. IV. Synopsis of the Mexican and Central American Species of Alnus. By M. L. FERNALD. V. Diagnoses and Synonymy of Mexican and Central American Spermatophytes. By J. M. GREENMAN. VI. Some new Species of Mexican and Nicaraguan Dicotyledons. By M. L. FERNALD. *Proc. Am. Acad.*, XL, 1–57.

B. L. ROBINSON, *Curator*.

THE BOTANIC GARDEN.

To the President of the University: —

Sir, — As Director of the Botanic Garden, I have the honor of presenting the following report for the academic year 1903–04.

I have received from Mr. Robert Cameron, Head Gardener, a brief account of the weather during that period so far as it affected our plants: —

> "The winter was exceptionally cold, and the greenhouses required much more coal and care than usual. The shrubbery suffered a great deal from the intensely cold weather, but our herbaceous plants, with their heavy covering of snow, wintered well.
>
> "The summer was cool and moist, and proved favorable to all of our plants. It is believed that all of our collections at the present time are generally in very good condition."

Comparatively few changes have been made in the arrangement of our plants in any of the systematic groups. A few transfers, regarded as necessary on account of the increasing size of some of our specimens, were carried out without disturbing the established sequence. It was found impracticable to install certain plants in the new special plots, as we had originally intended, but it is likely that these plans may be carried out during the coming year.

In very early spring it became apparent that the two sorts of destructive moths which now infest our neighborhood had established themselves securely in our grounds. Energetic measures were taken to destroy the nests of the brown-tail moths, and with good results, but the gypsy moths invaded some thickets of our choice plants, and made considerable headway before they could be checked. Our fine beech trees were severe sufferers and the foliage was badly injured throughout. At the time when the leaves were just beginning to develop, the beech hedge on the driveway became alive with the caterpillars of the gypsy moths, and complete destruction of the whole group was threatened. Assiduous spraying with poisons checked the ravages so successfully that by June the hedge was free from the pest and in fairly good condition. During the summer, more or less was done to destroy the moths in other parts of the Garden, but with little success, and at the present writing it is plain that the whole Garden is seriously imperiled. We are now having the nests of the gypsy moth saturated with creosote by expert workmen, who appear to be doing their work well. But we shall undoubtedly find in the spring that the destruction of the moths has been only partial.

Our palm-house and its wings were constructed about twenty years ago, and they have served a good purpose. Last summer when the plants were removed, as usual, to the shade under the maples, it became apparent that the whole building was unsafe. The sills, uprights, plates, rafters and sash were completely honeycombed by white ants and weakened by rot. At first it was thought that no repairs could be made, and removal of the entire building was in contemplation. But upon closer examination it was seen that a portion of the building could be saved to advantage, and therefore a contract was made with experienced builders to repair, glaze, and paint the whole. It is well known that such work is costly. In this instance we have been able, at an expenditure of about $2,000, to put the whole system in excellent condition, so that it can be fairly expected to last for at least fifteen years.

The Memorial Greenhouses and Laboratory have again proved their usefulness in every way. They are a distinct addition to our equipment. In the Laboratory Mr. Plowman has continued his researches upon the relations of plants to electricity, and the Director has pursued his studies on the characters of certain fibres and woods after impregnation with solutions of salts, and subsequent incineration.

Work at the Cuban Experiment Station of the Garden has been carried on during the past year under the immediate superintendence of Mr. Robert M. Grey. The weather has not been wholly favorable, but most of the experiments have resulted well. The most important investigations dealt with rice, maize, and ricinus; other studies considered a wide range of fruits and vegetables. Some of these results have been published in the American Journal of Science. Interesting reports are received each month from Mr. Grey and are accessible to any persons desiring to consult them. If the Station should continue to develop along its present lines, it is likely that the reports will be regularly published in a convenient form.

The Museum has received many additions during the year. Most of these specimens have been incorporated into our reserve, under their appropriate classes, while a few have been placed upon exhibition. The remounting of the Ware collection of Blaschka glass models has gone on without much interruption, and at this time only a few of the larger specimens are still on the original cardboards. Upon the plaques of plaster the specimens have a firm mounting and are more attractive. The entire collection has been revised as to its nomenclature, and new labels have been installed in all the cases. Dr. Greenman, of the Herbarium, has had charge of this work.

One of the most important improvements during the year is the change in the Nash lecture-room. By the liberality of Mr. Nash, the donor of the hall, a complete system of ventilation has been introduced, which promises perfect success. Mr. Nash also authorized the introduction of electric lights and of an electric lantern for projections. The costly system of ventilation and of lighting now recently brought into the room was not practicable at the time the room was built. Since that time effective modes of utilizing electricity for motors and lights have become well known. Mr. Nash gave permission to have the best forms of appliances obtained. Under the patient oversight of Professor Burke, the Inspector of Grounds and Buildings, the work has been completed to the satisfaction of everyone, and the lecture-room of the donor becomes even more pleasing than before, as a memorial gift.

Professor Robert T. Jackson submits the following account of the condition of the valuable collection of fossil plants now in the custody of the Botanic Museum. It will be remembered that this collection was brought together by the late Professor Agassiz and subsequently placed by the Director of the University Museum, Dr. Alexander Agassiz, under the care of the Botanic Department. Through the liberality of Mr. Elliot C. Lee, the Department has been able to construct permanent cases for the reception of these specimens and to have the whole collection studied by experts. Professor Jackson has given his time and services, and, under his superintendence, the work has been most thoroughly done.

> "Mr. Joseph A. Cushman, in what time he had available, continued cataloguing the collection of fossil plants. 7,749 lots of plants have now been catalogued. Some additional types or figured specimens have come to light since the last report. In addition to work on the collection itself, a number of selected specimens have been purchased from the Elliot C. Lee Fund, to fill gaps in our series. Three persons consulted the collections this year, in connection with their work on fossil plants."

The meetings of the Overseers' Committee on the Botanic Garden have been fruitful. Substantial aid was secured by the members of the Committee, and, because it was thought by them that the present is not a good time to undertake a general subscription, they have done much towards meeting the annual deficit which confronts the management of the Garden. As soon as is possible, an effort will be made to increase the funds of the Garden to a point where its modest expenses can be met without yearly demanding subscriptions to meet the difference between our small income and our absolutely necessary expenses.

GEORGE LINCOLN GOODALE, *Director*.

THE ARNOLD ARBORETUM.

To the President of the University: —

Sir: — I have the honor to submit the following report on the progress and condition of the Arnold Arboretum during the year ending July 31, 1904: —

During the year Mr. J. G. Jack has given instruction in dendrology at the Arboretum to students of landscape-gardening from the Institute of Technology, to University students of forestry, and to a spring class of 26 special students, largely composed of teachers. The number of persons who come to the Arboretum to study the living collections, or to work in the library and herbarium, increases from year to year, and often severely taxes the space available for their use in the laboratories.

Among the large number of additions made to the living collections during the past year the most important are many species of North American Crataegus, and a collection of trees and shrubs sent from Peking. A critical catalogue of the plants growing in the Arboretum is greatly needed, and will be prepared as soon as it is practicable to do so.

The interchange of plants and seeds with other botanical and horticultural establishments has been continued during the year. 7,443 plants (including grafts and cuttings) and 1,234 packets of seeds have been distributed as follows: To the United States, 6,889 plants and 169 packets of seeds; to Canada, 32 packets of seeds; to Great Britain, 45 plants and 140 packets of seeds; to the continent of Europe, 509 plants and 785 packets of seeds; to Japan, 103 packets of seeds; to India, China, and Java, 5 packets of seeds. There have been received during the year 3,044 plants and 277 packets of seeds.

During the year 6,190 sheets of dried plants have been added to the herbarium, and 888 sheets of duplicates have been distributed to other establishments. This is the largest addition which has been made to the herbarium in one year.

The library has received, by gift, 909 bound volumes and 330 pamphlets.

Practically all the dendrological literature to be found in the United States has now been examined for the Bradley Bibliography, and Mr. Alfred Rehder, who has direct charge of the work, has gone to Europe to continue it in the libraries of England and the continent.

I am glad again to express my thanks to the trustees of the Massachusetts Society for the Promotion of Agriculture for their annual grant of $2,500 for the maintenance of the Arboretum, and to the members of the Visiting Committee for their advice and assistance.

C. S. SARGENT, *Director.*

THE CHEMICAL LABORATORY.

To the President of the University: —

Sir, — At the beginning of the year the directorship of the Laboratory, for nine years filled with exceptional success by the late Professor Henry B. Hill, was taken over by Professor Sanger. Professor Richards became chairman of the Division of Chemistry, and Dr. Baxter librarian.

The changes in courses which accompanied this re-arrangement of the staff were as follows: Dr. Henry A. Torrey (A.B., Univ. of Vermont, 1893; Ph.D., Harvard, 1897) was called from an assistant-professorship of chemistry at the University of Vermont to take charge of the advanced course in organic chemistry (Chemistry 5), given heretofore by the late Professor Hill, and also to give the elementary course in the same subject (Chemistry 2), conducted last year by Dr. Baxter. Dr. Torrey has also been associated with Professor Sanger in the conduct of qualitative analysis (Chemistry 3). The course in industrial chemistry (Chemistry 11), given for the first time in 1902–03, by Professor Sanger, was omitted for this year, but in place of it was given a half-course (Chemistry 11*a*), not counting for a degree, in the same subject, by Dr. H. H. Pringsheim (Ph.D., Heidelberg, 1900).

The number of students in the several laboratory courses during the year, and in June, 1903, were as follows: —

	October, 1903.	January 1st, 1904.	June 1st, 1904.	June 1st, 1903.
Chemistry 1	394	371	369	336
Chemistry 3	132	123	122	127
Chemistry 4	45	42	44	39
Chemistry 5	40	37	37	18
Chemistry 6	26	22	22	11
Chemistry 9	21	18	..	..
Chemistry 10	..	..	17	22
Chemistry 12	9	9	..	..
Chemistry 13	..	..	6	6
Chemistry 20*a*	1	1	1	4
Chemistry 20*b*	5	5	5	5
Chemistry 20*c*	3	3	4	3
Chemistry 20*d*	6	6	6	5
Chemistry 20*e*	3	3	3	3
Chemistry 20*f*	2	2	2	..
	687	642	638	579

The number of students in the courses in which no laboratory work is given were as follows: —

	October, 1903.	January 1st, 1904.	June 1st, 1904.	June 1st, 1903.
Chemistry 2	62	60	..	..
Chemistry 7	..	..	15	13
Chemistry 11	12*	12*	12*	21
Chemistry 14	4	4	4	2
Total number of students under instruction	765	718	669	614

During the summer of 1903 the department received from Mr. Edward Mallinckrodt, of St. Louis, the generous gift of $1,000, to be devoted to the reading-room and purchase of books for the library. With this gift it was possible to fit the old reading-room with stacks, additional reading-tables, and lights. In addition, many reference books were bought, and, by an arrangement with the College Library, the current chemical journals are now kept on file in the reading-room, while the bound volumes of these journals, which heretofore constituted our chief library, are still kept in the room. An attendant is at hand during the working hours of the day, and from 7 to 10 on week-day evenings we are able to secure the service of Price Greenleaf students as attendants. The reading-room now offers to all students in the laboratory an excellent opportunity for study and reference. The library has also been enriched by further gifts of books and journals from Professor Wolcott Gibbs.

During the summer of 1903 the first-floor room, south, used for many years as a research laboratory, was divided into three parts, which gave greatly needed accommodations in the form of two private rooms for instructors in charge of courses on that floor, leaving a third room for the use of two or three research students. At the opening of the year it was evident, from the increased numbers in the regular laboratory courses in physical chemistry (Chemistry 6, 12, 13), that other accommodations must be found besides the small room in which had been placed, not only these students, but also the research students in that subject. Accordingly, the first-floor room, northwest, heretofore used for elementary chemistry (Chemistry *B*, discontinued in 1902, and Chemistry 1 prior to the construction of the shed laboratory in 1902), was given over to the use of the regular laboratory courses in physical chemistry. The former room was left for the research students, but it is too small even for these. Though not especially adapted for instruction in physical chemistry, the larger room serves for the present to provide for students in the courses assigned to it. In one corner of the room was also fitted up a dark closet for the use of the course in photo-chemistry (Chemistry 12).

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* This was given as a voluntary course, not counting for a degree. The figure 12 is included only for comparison and represents the average number of students attending the course.

The small lecture-room on the second floor, south, was too small to accommodate the increased numbers in most of the courses originally assigned to it, and was, in addition, noisy and poorly ventilated. Accordingly, the space occupied by this room was utilized in fitting up two small research laboratories, of which the building was greatly in need. The abandonment of this lecture-room will throw an additional number of courses into the room on the same floor, east, which, with the exception of the large room in which are held the elementary lectures, is the only lecture-room we have. This room has, however, been made more useful by the addition of modern seats, and can be made to accommodate all the courses, with the exception of Chemistry 1, without serious interference between courses.

The following investigations were conducted during the year: Professor Jackson, in continuation of his work on orthoquinones, studied with Mr. H. A. Carlton the compounds of tetrabromorthoquinone with alcohols, adding several new compounds to these classes, and trying many fruitless experiments to determine their constitution. With Mr. F. W. Russe the action of ketones and aldehydes on tetrabromorthoquinone was shown to consist in a condensation of two molecules with removal of bromine, and some progress was made towards the solution of the perplexing problem involved in the action of organic acids on tetrabromorthoquinone. With Mr. R. D. MacLaurin the study of the tetrachlororthoquinone was begun, and progress was made in tracing its resemblances to and differences from the corresponding bromine compound. With Mr. P. A. Shaffer it was shown that the hexabromorthoquinone-pyrocatechin ether, like other orthoquinones, gives a compound with methyl alcohol. With the late Mr. A. D. Wyman a new method of making orthonapthoquinone was studied. With Dr. H. H. Pringsheim the investigation of the phenylenediimine was continued. With Mr. L. Clarke two new subjects of investigation were taken up, — the addition compounds of dimethylaniline with nitro bodies or quinones, and the bromine addition products of dimethylaniline. The first of these researches was brought to a satisfactory conclusion, and good progress was made with the second.

Professor Richards has made progress in his work upon compressibility and upon the transition temperatures of crystallized salts. The following additional investigations were carried out under his direction: Mr. G. E. Behr, Jr., continued the study of the free energy change of iron under many conditions, obtaining light on its occlusion and its passivity; Mr. R. W. Kent has studied nickel in the same way; Mr. G. S. Forbes has made a careful study of amalgam cells, and has shown the direction and extent of the deviation of their electro-motive forces from those predicted by the gas law at great dilutions; Mr. A. B. Lamb has studied the specific heat of aqueous solutions by a new method which gave satisfactory results; and Dr. R. C. Wells continued his investigation of the atomic weight of sodium, showing its value to be at least as low as 23.008, and finding evidence that Stas's value for chlorine also is slightly in error. Professor Richards received a second grant of $2,500 from the Carnegie Institution of Washington to assist these investigations.

Dr. Torrey studied with Mr. H. Hardenbergh the dissociation of phenoquinone and quinhydrone in benzol, and in general the action of neutral solvents on these compounds. The results of this work are ready for publication. With Mr. W. W. Farnum, Dr. Torrey continued his work on the action of ethylene dibromide on paranitrosodimethylaniline, studying especially the action of dilute nitric acid on dinitrosodimethylaniline ethylene. With Mr. W. H. Hunter the action of potassic iodine on chloranil and bromanil was studied, showing that, in the latter case, bromine was replaced by iodine. With Mr. H. B. Kipper a study was begun of the action of ortho- and metanitrobenzoyl chloride on polyatomic phenols.

Dr. Baxter began an investigation on the atomic weight of iodine, and determined the following ratios: silver to silver iodide, silver to iodine, and silver iodide to silver chloride. The results from the three series of analyses led to the value 126.975 for the atomic weight of iodine. Dr. Baxter also determined with accuracy the specific gravities of lithium chloride, bromide and iodide, and of silver iodide. Under Dr. Baxter's direction Mr. M. A. Hines undertook a determination of the atomic weight of cadmium through the analysis of cadmium chloride, and obtained the value 112.47 for this constant. Dr. Baxter received a grant of $500 from the Carnegie Institution of Washington for a research on the atomic weight of manganese.

Dr. Lewis studied quantitatively the decomposition of oxide of silver at temperatures above 300 degrees with interesting results. Under Dr. Lewis' direction, Mr. P. Wheeler studied the conductivity of solutions of potassic iodide in fused iodine; Mr. R. F. Jackson studied the overvoltage of the deposition of hydrogen upon mercury, and Mr. B. S. Lacy began a study of migration values in fused salts.

Dr. H. H. Pringsheim devised a rapid method for the estimation of chlorine, bromine, and iodine in organic compounds, by decomposition with sodium peroxide and subsequent determination of the halogen removed by the sodium.

Professor Sanger completed, with Mr. J. A. Gibson, the work on their method for the estimation of small amounts of antimony. With Mr. O. F. Black he worked out a method for the determination of arsenic in urine, — also a quantitative adaptation of the Gutzeit method for estimation of arsenic. With Mr. J. F. Langmaid he studied the action of pyrosulfuryl chloride and of chlorsulphuric acid on chromyl chloride. The following papers were published during the year: —

1. On the Action of Aniline upon Tetrabromorthobenzoquinone. By C. LORING JACKSON and HORACE C. PORTER. *Am. Chem. Journ.*, XXX, 518.

2. Ueber Additionsprodukte mit Dimethylanilin. Von C. LORING JACKSON und LATHAM CLARKE. *Ber. d. deutsch. chem. Gesell.*, XXXVII, 176.

3. On certain Addition Compounds derived from Orthobenzoquinone. By C. LORING JACKSON and HORACE C. PORTER. *Am. Chem. Journ.*, XXXI, 89.

4. The Action of Bromine on 2.6-Dibromparaphenylenediamine. By C. LORING JACKSON and D. F. CALHANE. *Am. Chem. Journ.*, XXXI, 209.

5. On Tetrachlordinitrobenzol. By C. LORING JACKSON and H. A. CARLTON. *Am. Chem. Journ.*, XXXI, 360.

6. On certain Derivatives of Trichlortrinitrobenzol. By C. LORING JACKSON and PAUL SHORTT SMITH. *Am. Chem. Journ.*, XXXII, 168.

7. On the Preparation of Formiminoethyl Ether. By H. B. HILL and O. F. BLACK. *Am. Chem. Journ.*, XXXI, 207.

8. Ueber die optischen Isomeren der β-Dihydrofurfuran-$\alpha\alpha'$-dicarbonsäure. Von H. B. HILL und F. W. RUSSE. *Ber. d. deutsch. chem. Gesell.*, XXXVII, 2538.

9. A new method for Determining Compressibility, with Application to Bromine, Iodine, Chloroform, Bromoform, Carbon Tetrachloride, Phosphorus and Water. By THEODORE W. RICHARDS and W. N. STULL. *Carnegie Institution Publications*, No. 7, December, 1903.

10. The Nephelometer, an Instrument for Detecting and Estimating Opalescent Precipitates. By THEODORE W. RICHARDS and ROGER CLARK WELLS. *Am. Chem. Journ.*, XXXI, 235.

11. Note on a Method of Determining Small Quantities of Mercury. By THEODORE W. RICHARDS and SIDNEY KENT SINGER. *Journ. Am. Chem. Soc.*, XXVI, 300.

12. Sources of Error in the Determination of the Atomic Weight of Nitrogen. By THEODORE W. RICHARDS. *Proc. Am. Philosoph. Soc.*, XLIII, 116.

13. A Rapid and Convenient Method for the Quantitative Electrolytic Precipitation of Copper. By THEODORE W. RICHARDS and HAROLD BISBEE. *Journ. Am. Chem. Soc.*, XXVI, 530.

14. The Significance of Changing Atomic Volume; IV. The Effects of Chemical and Cohesive Internal Pressure. By **Theodore W. Richards.** *Proc. Am. Acad.*, XXXIX, 581.

15. The Relation of the Hypothesis of Compressible Atoms to Electrochemistry. By **Theodore W. Richards.** *Trans. International Electrical Congress* at St. Louis, 1904.

16. A Revision of the Atomic Weight of Iron. Second Paper, The Analysis of Ferrous Bromide. By **G. P. Baxter.** *Proc. Am. Acad.*, XXXIX, 245.

17. The Specific Gravities of Lithium Chloride, Bromide, and Iodide. By **G. P. Baxter.** *Am. Chem. Journ.*, XXXI, 558.

18. The Specific Gravities of Cadmium Chloride and Cadmium Bromide. By **G. P. Baxter** and **M. A. Hines.** *Am. Chem. Journ.*, XXXI, 220.

19. The Specific Gravity of Zinc Chloride. By **G. P. Baxter** and **A. B. Lamb.** *Am. Chem. Journ.*, XXXI, 229.

20. Ueber ein Schnellverfahren zur quantitativen Bestimmung von Chlor, Brom und Jod in organischen Verbindungen mit Natriumsuperoxyd. Von **H. H. Pringsheim.** *Ber. d. deutsch. chem. Gesell.*, XXXVI, 4244.

21. The Analysis of Organic Substances with the Help of Sodium Peroxide. By **H. H. Pringsheim.** *Am. Chem. Journ.*, XXXI, 386.

22. Ueber den Gebrauch des Natriumsuperoxydes zur quantitativen Analyse organischer Substanzen. Von **H. H. Pringsheim.** *Ber. d. deutsch. chem. Gesell.*, XXXVII, 2155.

Attention was repeatedly called by the late Director to the crowded condition of Boylston Hall, which has now reached a point where it may be said to impede seriously the progress of the department. We are for the present furnishing desk-room for our elementary students, but we are compelling a large part of them to work under unsanitary conditions. The intermediate courses are for the time being barely provided for, and a slight increase in these courses would necessitate exclusion of some applicants. Our research students are crowded into small and poorly adapted rooms, and their number now exceeds the desk-space which should be allotted to each man. The service of the building is hampered by inadequate storage-rooms, which are inconveniently situated with respect to most of the laboratories which they serve.

No extension of laboratory work is possible on account of lack of space. It is impossible, for instance, to supplement the lectures in elementary organic chemistry (Chemistry 2) by a course in organic preparations. The need of such a course as part of a general training, as an introduction to advanced work in organic chemistry, and as a preparation for a medical education, is every year more apparent. We can make no provision for laboratory work in industrial chemistry or in inorganic preparations. We can do no laboratory work in biological chemistry. We have no facilities for carrying on water analysis or general work in sanitary chemistry. Our room for gas analysis is absurdly unfitted for the purpose. Certain lines of physico-chemical research are impossible to carry out for want of room. Lectures in general chemistry are given in a room in which not over half of the large class can see and a large number can not hear well, while the construction of the room imposes a severe tax on the lecturer. All other lectures are given in one room, which, although sufficing at present, could not provide for more or larger courses. We are able to make no provision for small meetings of classes for lectures or recitation work.

No remedy seems to be possible for this state of things except the construction of a new and properly endowed laboratory, since a reconstruction of the old building would be architecturally difficult, and would involve a very great expense. Every part of Boylston Hall, from roof to cellar, has been utilized to the utmost extent. We are now in the position of not being able to offer inducements for chemical study commensurate with the reputation of Harvard University. We shall continue in this position until a new laboratory is built.

CHARLES R. SANGER, *Director*.

THE JEFFERSON PHYSICAL LABORATORY.

To the President of the University: —

Sir, — The students enrolled in the Department of Physics are distributed as follows: —

Physics *B*	148
“ *C*	236
“ 1	45
“ 2	7
“ 3	33
“ 4	17
“ 5	6
“ 6	11
“ 11	9
“ 12	8
	520

Research Courses.	
20*a*	2
20*c*	3
20*d*	2
20*e*	1
	8

Physics *C* now occupies three large laboratories. The increased accommodations and the carefully arranged course of quantitative experiments make this elective a very attractive one. It is encouraging to note that students in comparatively large numbers take a course which requires regular weekly work and which cannot be crammed. The success of this elective is due to the constant effort of Professor Sabine to increase its instrumental appliances and to raise its intellectual level.

There are eight Graduate Students pursuing research courses in the laboratory, and every available room is occupied with these researches. The gift of Hon. T. Jefferson Coolidge for original research has greatly stimulated the spirit of investigation, as will be seen by considering the following list of work which is now in progress and in which important results have already been obtained:

Energy of the X-rays. J. M. Adams.
Index of refraction of liquids under high pressure. P. W. Bridgman.
Electric Double Refraction. H. L. Blackwell.
Magnetic Hysteresis. H. N. Davis.
Thomson Effect, or the conveyance of heat by electricity. Professor Hall.
Viscosity of Gases. J. L. Hogg.
Short Waves of Light. Dr. Theodore Lyman.
New Spectra of Fluorescence. Dr. H. W. Morse.
Investigation in Magnetism. Professor Peirce.
Resonance in Wireless Telegraphy. Dr. G. W. Pierce.
Investigations in Acoustics. Professor Sabine.
Investigation in Spectrum Analysis. Professor Trowbridge.

To illustrate the arduous labor involved in modern physical research I will select from the above list the work of Dr. Hogg and that of Professor Hall and of Professor Sabine. Dr. Hogg, in order to obtain the proper conditions for his observations, is obliged to work continuously, or, in other words, to make a run, during twelve hours or more, thus frequently carrying his work far into the night. Professor Hall also, in his research, is obliged to make continuous observations over long periods of time. In the case of both of these observers, outside disturbances often compel the repetition of such series of observations. Ball playing and the running track on Holmes Field have been the source of great annoyance. All of these sports could be enjoyed on Jarvis Field without additional expense to the University and without disturbance to the extremely important function of this Laboratory, — that of research. In order to obtain freedom from noise, Professor Sabine worked during a great part of the summer from midnight until five o'clock in the morning.

Two of the investigations now in progress, beside their scientific aspects, bear directly upon the application of science to the useful arts. These are the researches of Professor Sabine in Architectural Acoustics and Dr. G. W. Pierce's work on Tuning Wireless Telegraph Circuits. This work is the most quantitative that has been done in this important subject. Dr. Pierce has been enabled by varying the frequency of the sending apparatus two per cent. to change the amount of energy transmitted fifty per cent. This result encourages one to believe that individualization of wireless messages will ultimately be practicable.

The Physical Colloquiums were held every week during the past terms of the year, and were fully attended by Graduate Students and the officers of the Department. At these meetings the investigations in progress were discussed and criticized. Such opportunities of meeting a large body of instructors and students engaged in research constitute one of the great advantages in attending a large university. I have dwelt in some detail upon the spirit of work shown by students in this Department in order to enforce the point that the intellectual life in one of the great branches of science taught in the University was never so vigorous.

To keep constantly abreast with rapidly advancing physical science the Laboratory needs a larger power plant, a larger library, more underground rooms for obtaining conditions of constant temperature, and a liquid hydrogen plant.

At the meeting of the American Association, together with allied societies, during the Christmas recess, five members of the Physical Department read papers.

During the year the first volume of "Contributions to Physical Science" from this Laboratory was published. It is proposed to continue this publication each year and to maintain its present position as the leading publication in Physics in America. It is believed that it will have the important effect of making known our experimental resources to graduate students of other universities.

The following papers were published during this year: —

1. Experiments on the Deviation of Falling Bodies. By Professor HALL. *Proc. Am. Acad.*, 1904.
2. Generalized Space Differentials of the Second Order. By Professor PEIRCE. *Proc. Am. Acad.*, 1904.
3. Theorems concerning the Flow of Electricity in Solid Conductors. By Professor PEIRCE. *Proc. Am. Acad.*, 1904.
4. The Cooper Hewitt Mercury Interrupter. By Dr. G. W. PIERCE. *Proc. Am. Acad.*, 1904.
5. Resonance in Wireless Telegraph Circuits. By Dr. G. W. PIERCE. *Physical Review*, September, 1904.
6. Short Waves of Light. By Dr. LYMAN. *Astrophysical Journ.*, May, 1904.
7. On the relation of current density to the Hall effect in Gold. By Dr. T. C. McKay. *Proc. Am. Acad.*, 1904.
8. Influence of Occluded Hydrogen on the electrical resistance of Platinum. By Dr. W. E. MCELFRESH. *Proc. Am. Acad.*, 1904.
9. Spectra produced by the Wehnelt Interrupter. By Dr. H. W. MORSE. *Astrophysical Journ.*, April, 1904.
10. Radium and the electron theory. By Professor TROWBRIDGE and Dr. ROLLINS. *Am. Journ. Science*, 1904.
11. Spectra of Gases at High Temperatures. Professor TROWBRIDGE. Printed in reports of World's Fair, St. Louis, 1904.

JOHN TROWBRIDGE, *Director*.

THE DIVISION OF ENGINEERING.

To the President of the University: —

Sir, — I respectfully submit the following report on the Division of Engineering for the year 1903–04.

The raising of the requirements for entrance to the Scientific School, and the possibility of obtaining in five years the academic and scientific degrees have served to induce many students of engineering to spend three years in the College before entering the Scientific School. The consequence has been a very marked increase in elections of engineering courses by College students. This is shown in the following table, made up to cover the enrolments for the past five years: —

	1899–1900.	1900–01.	1901–02.	1902–03.	1903–04.
Total enrolments in engineering courses	1666	1954	2014	2095	2274
Number of Scientific School students .	1508	1635	1633	1582	1654
Number of students not registered in Scientific School	158	319	381	513	620
Percentage of Academic students . .	9.5	16.3	18.9	24.5	27.3

It will thus be seen that the proportion of Academic students to Scientific School students has almost trebled in five years, and that 27.3% of the instruction offered by the Engineering Division is given to students not registered in the Scientific School.

The tendency towards college training previous to the professional training in engineering is also indicated by the list of graduates since the rule allowing students to take two degrees in five years has become operative. A brief table is made out for three years to show the proportion of engineering graduates who had previously received the degree of A. B. from Harvard College.

	1901–02.	1902–03.	1903–04.
Number of engineering graduates	18	19	25
Number who had previously obtained the degree of A.B. from Harvard	2	4	9
Percentage	11	22	36

This tendency is in the right direction, and should, if encouraged, build up a graduate professional school, analogous to the Law School. This seems highly desirable in order that the Division may do its best work. The only difficulty in the present arrangement is due to the increasing number of students taking instruction under the

Division, without a proportionate increase in the instructing staff. For a number of years the instructors have been overloaded, and have consequently been able to give little attention to professional research. Electrical engineering is now fairly well provided for. Civil engineering, however, is in need of an additional instructor; and mechanical engineering is suffering for lack of an adequate staff. The work of individual instructors cannot well be reduced under present conditions. Courses in engineering offered by the University form the minimum necessary parts of prescribed schedules leading to degrees in civil, mechanical, and electrical engineering. It is consequently impossible to lessen the work of instructors by omitting anything, without at the same time seriously impairing the system of instruction. The case is different from that in most other Departments under the Faculty of Arts and Sciences, where a large part of the work is elective and can be modified without real damage to an entire group of courses. From the point of view of a satisfactory standard, something will have to be done for the Division before long. Efficiency cannot be maintained with the present number of instructors. There remains, besides, the consideration of advanced and graduate work. It is extremely desirable to provide some election for students from the College and from other institutions.

Fortunately, the courses are so arranged that students may change easily from one branch of engineering to another. Especially is this true of electrical and mechanical engineering. This shifting takes place every year, and it may be seen from the Catalogue that the course in mechanical engineering has suffered in numbers in proportion as electrical engineering has gained. This may be ascribed in part to the gradual change in the devices used for power stations and manufacturing purposes throughout the country, but it is probably in larger part due to the lack of adequate facilities in mechanical engineering. The increase of equipment in the electrical laboratories made itself felt at once by the transfer of a number of students to the electrical courses. At present the laboratories of mechanical engineering are equipped simply for elementary work, and comparatively little can be done for advanced students. This points to the necessity of a considerable outlay for machinery.

The Summer Camp at Squam Lake has been very successful during the past two summers under the efficient management of Assistant Professor Hughes. His attention to its development bids fair to make it an extremely useful adjunct to the regular instruction given at Cambridge. It should be the place where a student may go to take only one subject at a time, thus concentrating his efforts upon the attainment of one end. This plan has worked admirably in the surveying courses, which are well adapted to camp life, and the results afford valuable evidence for other courses. During the past summer students were taken in descriptive geometry, graphical statics, resistance of materials, and applied mechanics, to the number of fifty-one enrolments. For their benefit the day was divided into two periods, and it was found easily possible to hold their attention to a single subject for six or eight hours without fatigue. The woods and lake afford healthful relaxation, free from the distractions of Cambridge and Boston. Judging from the experience of the summer, it seems possible for a student to work at in-door studies for ten weeks in the country without losing his vigor for the fall term. The vacation habit is bad when it means three months of idleness every year, and it would seem worth while for the University to try seriously the experiment of putting other subjects besides those pertaining to engineering into the summer camp for College students. At present few courses given in Cambridge under the auspices of the Summer School count for the degrees, but the summer work at Squam Lake is intended almost wholly for Harvard students.

During the past year some of the members of the Department have been able to take up important work outside the regular routine. Professor Kennelly was secretary of the International Electrical Engineering Congress at St. Louis, and as such has charge of the publication of a large number of papers contributed by electrical engineers of America and Europe. There will be three large volumes of this notable work. Professor Johnson was able to direct the working drawings for the Stadium and to make all the calculations for structural strength. This involved a large amount of detail, which was admirably carried out.

The following papers were published during the year: —

The Repulsion Motor. By C. A. ADAMS. American Institute of Electrical Engineers.

Leakage Reactance of Induction Motors. By C. A. ADAMS. International Electrical Congress, St. Louis.

On the Mechanism of Electric Power Transmission. By A. E. KENNELLY. *Electrical World and Engineer.*

Efficiency Curves of Constant-Potential Transformers. By A. E. KENNELLY. *Electrical World and Engineer.*

The Alternating-Current Theory of Transmission Speed over Submarine Cables. By A. E. KENNELLY. International Electrical Congress, St. Louis.

High-Frequency Telephone Circuit Tests. By A. E. KENNELLY. International Electrical Congress, St. Louis.

Two Elementary Constructions in Complex Trigonometry. By A. E. KENNELLY. *The Annals of Mathematics.*

The Electrical Resistance of Bearings. By A. E. KENNELLY and C. A. ADAMS. *Electrical World and Engineer.*

On the Parallel-Working of Delta and Star-Connected Three-Phase Transformers. By A. E. KENNELLY and S. E. WHITING. *Electrical World and Engineer.*

The Present Status of the Edison Storage Battery. By A. E. KENNELLY and S. E. WHITING. International Electrical Congress, St. Louis.

The Use of Superheated Steam and of Reheaters in Compound Engines of Large Size. By L. S. MARKS. American Society of Mechanical Engineers.

Some Recent Tests of the Weight of Crowds. By L. J. JOHNSON. *Engineering News.*

Design of the Steel-Concrete Work of the Harvard Stadium. By L. J. JOHNSON. *Journal of the Association of Engineering Societies.*

Balancing Steam Engines. By IRA N. HOLLIS. Naval Institute (for Midshipmen at the Naval Academy).

Descriptive Geometry — An Elementary Treatise. By J. A. MOYER. Press of Harvard University, and John Wiley & Sons.

In addition to the above, the members of the Department have been generous contributors to the *Harvard Engineering Journal.*

IRA N. HOLLIS.

THE PSYCHOLOGICAL LABORATORY.

To the President of the University: —

Sir, — The most important event for the development of experimental psychology in Harvard University during the last year has been the completion of the plans for Emerson Hall and the beginning of the work thereon. The Philosophical Department eagerly awaits the early opening of the new building, since it will at last give excellent quarters for all the work, — the elementary and the advanced work in Logic, Ethics, Psychology, Aesthetics, History of Philosophy, Metaphysics, and Sociology. It is hoped especially that the external bringing together of the various philosophical activities will reënforce in the academic community the consciousness of the inner unity of all philosophical branches and of their central importance for any scholarly work. But it is by psychology above all that the new building is most urgently needed. Even the most elementary courses have suffered by the present situation. The large introductory course in psychology has had to be given by the Director of the Psychological Laboratory in the New Lecture Hall, and every piece of apparatus used for experimental demonstrations has had to be carried from Dane Hall to Kirkland Street. Emerson Hall will have under one roof the collection of psychological instruments and a lecture hall sufficient in size, even if the introductory courses come to have over one hundred men more than at present. But the chief advantage accrues to the research work and the more advanced psychological courses. The Psychological Laboratory will contain twenty-three rooms, adjusted to the various needs of special investigations, and care has been taken to profit in every way from the experiences which the recently built laboratories of other universities have gathered as to the details of desirable arrangement. We can expect to have in Emerson Hall a model psychological laboratory, well equipped for nearly every line of psychological research, not excluding research into the mental life of animals.

The instruction during the last year has been essentially the same as in the foregoing, but the Department welcomes the plan of Dr. Yerkes to develop his half-course on Genetic Psychology into two half-courses, the one devoted to Comparative Psychology and the other to Mental Development. The first one confines itself to Phylogenetic, the second to Ontogenetic development. The experimental training course in elementary laboratory work has been improved by the publication of a manual for the laboratory work by the two assistants of the Laboratory, Dr. Holt and Dr. Yerkes. The chief stress of the laboratory activity has lain again on the research work, which has been carried on vigorously by the instructors of the Department and fourteen Graduate Students, of whom two were members of Radcliffe College. Two of the investigations have been accepted as thesis work for the Ph.D., those of Mr. Bell and of Mr. Boswell. Three of the young investigators already had the Ph.D. Degree; one of them, Dr. Urban, has come over from Vienna, Austria, to carry on his investigations in the Harvard Laboratory. A number of these investigations will appear in the second volume of the Harvard Psychological Studies; but some of them have been published in the Psychological Review, in the Journal of Comparative Neurology and Psychology, in the Journal of Philosophy, Psychology and Scientific Methods, and so on.

An outline of the chief lines of our work will show especially that the Laboratory tries to avoid all one-sidedness in research work, offering thus opportunities for advanced study to psychologists of the most varied interests, — to students of psychology, for instance, who approach it from the point of view of future physicians or of future philosophers, of pedagogues or of artists, of zoölogists or of sociologists. And yet in spite of the great variety of subjects appearing on the surface, there is a certain inner unity running through all the work. It might be characterized by a special interest in the relation between sensory and motor processes, an interest which reflects itself somewhat in every one of the investigations, and which is bound up with the theoretical conviction that the greatest present need of psychology is a stronger emphasis on the psycho-motor phenomena encountered in the study of psychic activities.

Mr. F. M. Surrey, who started from the problem of fusion of tactual sensations, has developed his work into a general examination of the influence of tension and strain on touch impressions. Dr. C. T. Burnett has given the greater part of his time to the question as to how far the motor impulses are determined by abnormal positions. He has studied at the same time the rôle of associations in aesthetic processes. Mr. H. A. Miller has started an experimental study of the influence of voluntary movement on memory images. He has worked out, at the same time, a system of tests for the psychological examination of school children. Miss H. Kleinknecht has made a careful investigation as to the mutual inhibition of quickly succeeding optical impressions. Dr. D. C. Rogers has studied some new illusions in optical, tactual, and acoustical localization. Mr. B. T. Baldwin has continued his important investigations as to the coöperation of ideas in their influence on the train of associations. Mr. C. L. Vaughan has begun a much ramified study on the motor power of ideas. Mr. C. H. Johnston has studied the mutual influence of simultaneous feelings and their coöperation in bodily expression. Dr. F. M. Urban has examined the influence of feeling on the blood circulation. Mr. L. E. Emerson has begun interesting investigations into the nature of melody, studying combinations of tones which do not stand in musical relations. Miss E. H. Rowland has begun her work on the psychology of the aesthetic influences of visual repetition, a research which carries onward the previous investigations in the Laboratory on symmetry and on unequal division. Mr. F. P. Boswell has brought to an end his interesting study on irradiation of optical impressions, while Dr. E. B. Holt has continued successfully the optical work on visual anaesthesia during eye-movement, and also his investigations in stereoscopic seeing.

In animal psychology the following investigations have been pursued with gratifying results. Mr. J. C. Bell has completed his careful studies on the senses and reactions of the crayfish. Mr. J. E. Rouse has continued his study of the reactions of the pigeon to stimulation by light, and also extended his work to an investigation of the memory and of more complex associated processes of the birds. Dr. R. M. Yerkes has completed his study of the space perception of tortoises, and made considerable progress in an investigation of the phenomena of inhibition and reënforcement in the frog.

The very successful course in Experimental Psychology given, during the Summer School, by Dr. Yerkes, and counted towards the degree of A.B., completed the year's work of the Laboratory.

HUGO MÜNSTERBERG,
Professor of Psychology.

THE OBSERVATORY.

To the President of the University: —

Sir, — Two of the most experienced computers of the Observatory, Miss Anna Winlock and Mrs. I. W. Eddy, have died since the date of the last annual report.

Miss Winlock was the eldest daughter of Professor Winlock, the former Director of the Observatory, and began her astronomical work soon after the death of her father in 1875. She assisted the late Professor W. A. Rogers in the reduction of his meridian circle observations, including those of the zone between 49° 50′ and 55° 10′ north declinations, and after his death she took charge of the reduction of those still remaining unpublished. In addition to this work, she undertook many other contributions of importance, some of them belonging to the department of theoretical astronomy. Her care, efficiency, and good judgment were of great value to the Observatory.

The sudden death of Mrs. Eddy interrupted her work in the reduction of the meridian circle observations of the second zone, from 9° 50′ to 14° 10′ south declination, upon which she had been employed since the summer of 1889. She took much interest in this work, and displayed, in carrying it on, great patience and zeal. She lived to see it nearly completed, although not published, and the degree of accuracy it may prove to possess will depend, in a great measure, on the computations on which she was engaged.

The study of the problem of aid to international research in Astronomy has been continued during the year. A second pamphlet has been issued, and the present needs of the astronomers of the world are well shown in the replies to a circular letter issued for that purpose. It seems self-evident that a donor can secure a greater return in scientific results for his gifts, if aided in their expenditure by the astronomers of the world rather than by a single institution, and that coöperation and combined action should yield the same advance in Astronomy, as in industrial enterprises. The fact that this Observatory has a small fund which is being used for this work, although it might be expended here, does not indicate that its own needs are less urgent. These needs are becoming so imperative that they are pointed out in a special section of this report. Attention is also directed to the discovery of a ninth satellite of Saturn, and to the large number of variable stars discovered in certain portions of the sky, discussed with the work of the Bruce Telescope; also to the important additions to the equipment of the Observatory, mentioned under the Anonymous Gift of 1902. The acquisition of the 60-inch Common Telescope, which it is hoped will prove the most efficient and convenient instrument of its kind in the world, is described in the section devoted to the 12-inch Meridian Photometer.

Observatory Instruments.

East Equatorial. — Nearly all of the observations with this instrument have been made by Professor O. C. Wendell, and have been of the same general character as in previous years. Over seventeen thousand photometric light comparisons have been made, principally with the polarizing photometer with achromatic prisms. A large part of these measures relate to variable stars of the Algol type, and serve to determine the forms of the light curves and the times of minima. Many stars, especially those of a red color, have been suspected of variability by several observers, but as the changes do not appear to be regular, it has been impossible to decide whether these changes are real, or are due to errors of observation. With the photometer mentioned above, the accidental errors are so small that the nature of the changes can be readily determined. It appears that in some cases these changes are sudden and probably irregular. Measures have also been made of nine asteroids, to determine the variation, if any, in their light. From 2608 measures of Iris (7), it appears that this asteroid varies by about a quarter of a magnitude in a period of about $6^h\ 12^m$.

With a second photometer, adapted to the measurement of adjacent stars, measures have been made of *o* Ceti and of numerous double stars. 17 eclipses of Jupiter's satellites, making 768 in all, have also been observed with this instrument.

About 115 variable stars of long period have been followed by Argelander's method. 1025 observations of these objects have been made by Miss Cannon with the 6-inch West Equatorial on 88 nights, and in 200 cases the variable was too faint for observation. Each observation consists of a comparison of the variable with a brighter, and with a fainter star. 1403 observations on 159 nights were made in the same way by Mr. Campbell, generally with a 5-inch telescope, or opera glass. In 100 cases, the variable was too faint for observation. He has also made 1800 photometric settings on various objects. 174 similar observations have been communicated by Mr. J. H. Eadie, 146 by the Halsted Observatory, 129 by Miss A. S. Young, 103 by the McCormick Observatory, 50 by Senor Pereira, and 29 by the Vassar College Observatory. From these, combined with our own observations, monthly statements are made of the brightness of these variables, and early copies are sent to each observer. They are also published in *Popular Astronomy*.

Meridian Circle. — As in the previous year, the observations made with this instrument have been confined to frequent determinations of clock error, chiefly made by Miss M. F. Michaelis.

The work of completing the reductions of the observations of the zone —9° 50′ to —14° 10′ has been principally directed, during the past year, to the repetition of computations of the zone constants suspected of error, and to the comparison of different sections of the work, for the purpose of detecting systematic variations. An investigation of the residuals in declination, of the fundamental stars in different zones, was about half completed at the end of the year. It had already shown the existence of two systematic variations, each with an annual period, depending respectively upon zenith distance and upon time.

The reductions of the observations made by the late Professor Rogers, during the years 1879 to 1883, have been continued by Miss S. C. Bond. They were supervised by Miss Anna Winlock until the time of her lamented death, already mentioned, and have since been continued upon the same system. New arrangements have been made for their further prosecution by Miss Bond and other computers. The papers relating to the work have been collected and arranged by Mr. Dunne, who has also begun work upon the values of the inclination, the collection of material for which was reported last year.

12-inch Meridian Photometer. — With this instrument, 92,396 settings have been made by the Director, on 153 nights. In all, 429,992 settings have been made in six years. The measurement of all the Durchmusterung stars in zones 10′ wide, at intervals of five degrees, has been continued. This work is substantially completed for zones from + 30° to —20°, and for zones at intervals of ten degrees from + 30° to the North Pole. About one half of the observations required to complete the intermediate zones at + 35°, + 45°, and + 55° have been made. A zone of stars at declination —25° has also been observed, to determine the scales of the Cordoba and Cape Durchmusterungs. A large number of measures of sequences of stars in clusters, of comparison stars for variables, and other miscellaneous objects have also been made.

The observations with the various forms of meridian photometers have furnished a scale of photometric magnitudes, and measures of large numbers of standard stars of various degrees of brightness. The first meridian photometer had apertures of two inches. Between 1879 and 1882, nearly a hundred thousand measures were made with it of four thousand stars, including all those of the sixth magnitude and brighter north of declination —30°. The second photometer had apertures of four inches, and has been in nearly continuous use since 1882. More than a million measures, of about sixty thousand stars of the ninth magnitude and brighter, have been made with it. This instrument has been sent three times to Peru, and thus stars in all parts of the sky have been measured according to the same system. Since 1898, the 12-inch Meridian Photometer has been in regular use, and the observations have furnished large numbers of standards of the twelfth magnitude and brighter. Stars, however bright, can now be measured with this instrument, as well as with the smaller meridian photometers, by reducing the light of the real star, instead of that of the artificial star, by means of a wedge of shade glass. The continuous work of twenty-five years, including more than a million and a half observations, has thus furnished a standard scale of magnitudes, which has been extended systematically to fainter and fainter stars. It now appears desirable to carry this work still further, so that it shall include the faintest stars that can be seen. The photometer can be attached to any telescope however large, and by reducing the light of the real star, rather than that of the artificial star, precise measures of the light can be made even if the atmospheric conditions are poor. Recently, the 60-inch reflecting telescope, constructed by the late A. A. Common, was offered for sale, but at a price beyond the means of the Observatory. Fortunately, a portion of the Anonymous Fund of 1902, described below, remained unexpended, and, through the friendly mediation of Professor Turner, Mr. T. A. Common consented to dispose of the instrument upon terms that should lead him to be regarded as a contributor of a large part of the cost. The instrument has arrived safely in Cambridge, and is to be mounted according to a plan proposed for the large reflector of the Yerkes Observatory. The position of the eyepiece will be fixed and always directed towards the South Pole, and the observer and recorder will work in a warm room. Attaching the photometer described above to this instrument, we expect to have not only the largest, but the most convenient instrument of its kind, with which accurate measures can be made of the light of all stars, from the brightest to the faintest known.

Henry Draper Memorial.

The number of photographs taken with the 11-inch Draper Telescope was 543, making 15,030 in all; with the 8-inch Draper Telescope, 1,116, making the total number 32,094. The entire number of photographs of the stars taken at Cambridge during the year is 5,286. Twenty-one eclipses of Jupiter's satellites, and five occultations, have been successfully photographed with the 11-inch Draper Telescope. A new field of useful work has been found for it, which will probably occupy its time for several years. Volume XXVIII, Part I, contains a careful study of the bright northern stars photographed with this instrument. It appears that a similar study may be made of the spectra of much fainter stars, if photographed with one prism and an exposure of about 60 minutes. This permits a much more detailed classification than is possible with the 8-inch Draper Telescope. A beginning has been made with stars of the fifth magnitude and brighter, not contained in Volume XXVIII. As many spectra of adjacent stars appear on the photographs, it is probable that this work can be extended to much fainter stars. Mainly from an examination of the 8-inch Draper and Bache telescopes, nine variable stars, one star of the fifth type, one in which the line Hβ is bright, two gaseous nebulae, three stars of the fourth type, and one star whose spectrum is peculiar, have been found by Mrs. Fleming. Besides these, four variables have been found by Miss Wells, and the Hβ line was found to be bright in one star, by Miss Cannon. Mrs. Fleming has also classified and measured the intensity of the spectra of 1,866 stars for the Southern Draper Catalogue. A study of the distribution of stars having different spectra has led to some curious results. It appears that the Milky Way is wholly due to stars of the first type, and that stars of the second and third types are nearly uniformly distributed throughout the sky.

The general plan of taking the photographs, as described in previous reports, has been maintained under the direction of Mr. King. In photographic photometry, a preliminary reduction gives the total brightness of the Sun and the Moon as —26.0 and —11.0 magnitudes, respectively. The brightness of a circular portion of the sky one minute of arc in diameter is about equal to that of a star of magnitude —6.0 on bright clear days, and + 11.0 on dark clear nights. These values are subject to various errors, among which are those due to the temperature of the plate at the time of exposure. Temperature affects not only the absolute sensitiveness of the plate, but changes the gradation of the densities obtained. The emulsion increases in sensitiveness down to about 0°F., where it apparently reaches its maximum. Saturn and the faint adjacent stars have been photographed simultaneously by reducing the light of the planet with a photographic shade. Errors in the screws in the driving mechanism of the various telescopes have been investigated visually and photographically. By changing the position of the polar axis in azimuth, equatorial stars were caused to trail in declination. Photographs of such trails furnish a complete record of the errors of the screw.

BOYDEN DEPARTMENT.

The station at Arequipa has remained under the charge of Professor Bailey. The number of photographs taken with the 13-inch Boyden Telescope is 113, making 10,881 in all; with the 8-inch Bache Telescope, 2,357, making 35,004 in all. The total number of photographs of the stars taken during the year is 4,064. Measures have been made on 15 nights, with the Meridian Photometer, mainly of bright standard stars, one in each ten degrees square. Numerous photometric measures have been obtained with the 13-inch Boyden Telescope. With the photometer in which the light of an artificial star is varied by means of a photographic wedge, 64 series of measures have been made of stars in the Cordoba and Cape Durchmusterungs, to determine the scales of these catalogues. Seventeen asteroids have also been measured on from 3 to 25 nights each. No periods have been determined with certainty, although two or three of these objects appear to show small variations in light. The relative brightness of the components of 36 double stars has been measured on three nights each. 411 observations have been made, by Argelander's method, of 50 southern variable stars of long period, by Messrs. Manson and Wyeth. A careful study of the cloudiness at the station has been made by visual observations. The work, in general, has been in many respects facilitated by the introduction of electric lights.

BRUCE PHOTOGRAPHIC TELESCOPE.

Each year new uses appear for the Bruce Photographic Telescope, which further justify the courage and wisdom of Miss Bruce in permitting a costly experiment to be tried when success was doubtful. When it was proposed, some astronomers denied that a large photographic doublet would show fainter stars than a small one, and few were ready to admit the advantages which such an instrument has proved to possess. During the last year, Professor W. H. Pickering has succeeded in establishing the existence of Phoebe, the ninth satellite of Saturn, and has proved that it appears on more than forty photographs. Although announced in 1899, and shown at that time on four plates, astronomers failed to confirm or accept it. The discovery has been the result of a laborious study continued over many months. The average time required to find it on each plate has been about four hours, forming a great contrast to the ease and rapidity with which the other satellites have been discovered visually. Half a century ago, Hyperion, the seventh satellite of Saturn, was discovered at this Observatory. It was then regarded as an extremely faint object. Phoebe is about two magnitudes fainter, or has less than a sixth of the light. Its most remarkable property is that while the motion of rotation of Saturn, and of revolution of its eight satellites is direct, that of Phoebe is retrograde. Although Phoebe has been seen on two nights with the Yerkes Telescope, it appears to be beyond the reach of other instruments visually, and hitherto no telescope but the Bruce has succeeded in photographing it. From a study of the Bruce photographs, Miss Leavitt has discovered no less than 313 new variable stars, mainly in the borders of large nebulous regions, 152 having been found in the Large Magellanic Cloud. From a study of the chart plates of long exposure, Mr. Frost has discovered a large number of asteroid trails, nebulae, etc., including 203 nebulae in Virgo, where only 58 are given in Dreyer's New General Catalogue. 394 photographs have been taken with the Bruce Telescope during the last year, 26 of them having exposures of four hours. Phoebe has been photographed on 12 plates. The total number of Bruce plates is 6,981.

BLUE HILL METEOROLOGICAL OBSERVATORY.

This Observatory is maintained by Mr. A. L. Rotch, who employs three assistants. In addition to the regular observations on the summit of Blue Hill and at the two lower stations, observations in the free air above the hill were secured by means of kites every month, and, when possible, on the day designated for international observations in the upper air. Data were obtained during fourteen kite-flights, at an average maximum height of 7,750 feet above sea-level, and once at a height of 14,660 feet. A discussion by Mr. Clayton of all the observations in the free air, in their relation to the diurnal and annual periods of temperature, humidity, and wind-velocity, and the vertical gradients of these elements, up to two and a half miles, is now in press as Volume LVIII, Part I. Through coöperation with the authorities of the St. Louis Exposition, the staff of the Blue Hill Observatory were enabled to obtain observations of temperature at the highest altitude which has been reached above the American continent. Four *ballon-sondes* were despatched from St. Louis during the month of September, and all were recovered, two having attained a height of nine or ten miles. A kite with the recording instrument, and photographs of the Observatory were included in the Harvard University exhibit at St. Louis.

MISCELLANEOUS.

Anonymous Gift of 1902.—In 1902, a gift of $20,000 was received by this Observatory, with only one condition, that the name of the donor should not be made known. The gift has proved especially valuable, since it has permitted certain much needed permanent improvements to be made. Among these are, first, a wing to the building containing the collection of astronomical photographs. This wing consists of a brick, fireproof building, thirty feet square and three stories high, which will store more than two hundred thousand glass photographs, and thus provide the space needed for this purpose for many years. Secondly, two 24-inch reflectors and one mounting of the highest grade. Thirdly, the 60-inch reflector and mounting described above. Fourthly, various smaller permanent improvements which otherwise would have been beyond the means of this institution.

Carnegie Appropriation.—The collection of astronomical photographs furnishes a history of the stellar universe which is far more complete than any that exists elsewhere. When an object is discovered in any part of the sky, we can generally state its condition on two hundred or more nights previous to its discovery, and extending over the last fifteen years. About fifteen women are regularly engaged in the care and study of these photographs. This number could be greatly increased, and yet could extract but a small portion of the facts of value contained in this collection. Regarding it as a library, each book is unique, easily destroyed, and contains a multitude of facts not recorded elsewhere. The Carnegie Institution courteously made an appropriation of $2,500, for the year 1903, to be used in studying these photographs. A corps of ten observers was at once organized, and devoted a portion of their time to the work during the year. Notwithstanding the loss in forming and disbanding the corps during this time, a large amount of material was collected. A number of investigations were undertaken in order to show the variety of uses to which the collection could be put. Eleven thousand measures were made of 122 photographs of Jupiter's satellites while undergoing eclipse. Nine thousand measures were made of 364 photographs of four Algol stars, taken while near the time of minimum. Measures were made of the positions and magnitudes of 1,500 stars in the cluster in Perseus, and 265 stars near the new star in Gemini. Measures were made of about 2,000 plates of nine recently discovered variable stars of long period. Numerous early photographs of stars of the Algol type, and other variables of short period, were also measured. A study of the variation in light of a Orionis was made from photographs taken with the transit photometer. Photographs of Nova Geminorum, taken before its discovery, were examined. A portion of the results has been published in Circulars Nos. 69, 70, and 84. It was expected that the grant would be continued, otherwise a portion only of these investigations would have been undertaken, the work completed, and the results published. This course was rendered impossible by the shortness of the notice, only twelve days before the expiration of the grant, that provision would not be made for the continuation of the work.

Needs of the Observatory.—The two preceding paragraphs show how advantageously money can be expended for permanent improvements, and for current expenses of the Observatory. As stated in the last Annual Report, it is believed that $50,000 could be expended to great advantage in this way during the next few years. Fireproof buildings are greatly needed for the library, for the photographic laboratory, and for the workshop. They need not be large or expensive, and such buildings, like those in the College Yard, should have names assigned to them, and would form admirable memorials. The study of the astronomical photographs should be placed on a permanent basis. The sum of $5,000 could well be expended annually in this work. About $3,000 could be used for routine observers who would receive twenty-five or thirty cents an hour. $1,000 should be used for more skilled assistants to supervise and prepare the material for the printer. $1,000 should be used for publication. In this way a vast amount of valuable material could be secured which should be promptly published in the Annals. It will be noticed that the increase in the income of the Observatory, during the last fifteen years, has been small in comparison with the great increase in our appliances. No provision has been made for the permanent use and publication of the results of the new 60-inch and 24-inch reflectors. Doubtless the future endowments of the Observatory may be large, but these do not provide for our present needs. It has been shown above that an immediate expenditure could be made, to great advantage. It is unfortunate that year after year we should be unable to avail ourselves of opportunities now existing.

Colorado Station. — The first expedition undertaken with the Boyden Fund was made to Colorado, in 1887. The Observatory is still under great obligations to Professor Francis H. Loud of Colorado College for aid in many ways, including much of his own time, the use of his grounds, etc. It has ever since seemed desirable that we might avail ourselves of his friendly aid in securing such observations as could be made to great advantage in the remarkably clear air of Colorado Springs. A plan is accordingly now being carried out which promises to give results of great value. By the aid of the Advancement of Astronomical Science Fund of 1902, a Cooke Anastigmat Lens has been sent to Professor Loud, and is now mounted and ready for work near Colorado Springs. It is expected that photographs showing the structure of the Milky Way, greatly superior to any that can be made here, will thus be obtained.

St. Louis Exposition.—An octagonal building, surmounted by a dome, was erected at St. Louis, in the space allotted to the University, to contain the exhibit of the Observatory. Five of the inner walls were covered with sixty-three glass photographs, which were illuminated by electric lights. This method, which was used by several other observatories at St. Louis, was first employed by this Observatory at the Paris Exposition in 1900. A novel feature of the present exhibit is a description of the photographs, printed on white paper and illuminated in the same way. An attempt was made to illustrate the variety of methods in use here, rather than to show a few regions of exceptional interest.

Library. — The Library of the Observatory has been increased by 382 volumes and 3,335 pamphlets. The total numbers of volumes and pamphlets in the Library on October 1, 1904, were 11,141 and 21,969, respectively. This collection, one of the finest of its kind in the world, is in constant danger of destruction by fire, and is scattered through the rooms of the Observatory. A suitable building to contain it is one of our most urgent needs.

Telegraphic Announcements. — During the last year, 16 bulletins have been issued, making 159 in all. Of these bulletins, four were received from Professor Kreutz, three from the Yerkes Observatory, two from the University of California, one each from five other sources, and four originated from this Observatory. The bulletins are sent gratuitously to such institutions, newspapers, and individuals as desire them, and are likely to make use of them. In general, when a cipher telegram is received at the Observatory, it is translated, printed upon the bulletin sheets by an autographic process, and mailed within an hour of the receipt of the original message. Several persons are prepared to take charge of the distribution, so that, in the absence of one, another is available. The distribution of the announcements by telegraph is continued to subscribers who wish to pay for the messages.

Astronomers are requested, as heretofore, to send announcements of their discoveries to this Observatory for transmission to the observatories of Europe and America. To secure prompt attention, it is requested that all cablegrams be addressed "Observatory, Boston," and all telegrams "Harvard College Observatory, Cambridge, Mass." All correspondence relating to telegrams and announcements should be addressed to the Director.

Publications.—The amount of material published this year is unusually large. Volume XLIII, Part III, Volume XLVI, Parts I and II, Volume XLVIII, Nos. 5, 6, 7, 8, and 9, Volume LI, Volume LIII, Nos. 1, 2, 3, and 4, and Volume LVI, No. 1, have been printed and distributed. Volumes XLIII, XLVI, XLVIII, and LI are thus completed. 18 pages of Volume XXXIX, Part II, Peruvian Meteorology, 1891 to 1895, 56 pages of Volume XLVII, Photographic Study of Variable Stars, 93 pages of Volume XLIX, Photometric Observations with the East Equatorial, 93 pages of Volume LII, Photometric Observations of Jupiter's Satellites, and 50 pages of Volume LIV, Part I, Discussion of Kite Observations at Blue Hill, are in type. The first forty-six Volumes of the Annals, and also Volumes XLVIII and LI, are therefore completed, with the exception of Volume XXXIX.

Fourteen circulars have been issued during the year. The numbers, titles, and dates are as follows:—

74. Variable Stars of Long Period. January 1, 1904.
75. Variability of Iris (7). January 27, 1904.
76. Stars having Peculiar Spectra. March 21, 1904.
77. First Supplement to Catalogue of Variable Stars. March 22, 1904.
78. Variable Stars in the Nebula of Orion. March 23, 1904.
79. Seventy-six New Variable Stars. May 26, 1904.
80. Six New Variable Stars. May 26, 1904.
81. Notes on Variable Stars of Long Period. May 30, 1904.
82. 152 New Variable Stars in the Large Magellanic Cloud. June 21, 1904.
83. Common's 60-inch Telescope. August 18, 1904.

84. Carnegie Grant of 1903. August 24, 1904.
85. The Anonymous Gift of 1902. August 27, 1904.
86. The Nebula of Orion. September 5, 1904.
87. The Ninth Satellite of Saturn. A New Variable in Hercules. September 12, 1904.

Besides these publications and the reprints, extracts, and notices of them, the following minor publications have been made by the officers of the Observatory: —

Fifty-eighth Annual Report of the Director of the Astronomical Observatory of Harvard College. Cambridge, 1903.
The Astronomical Observatory of Harvard College. Cambridge, 1904.
A Plan for the Endowment of Astronomical Research, No. 2. By Edward C. Pickering. Cambridge, 1904.
The Arequipa Station of the Harvard Observatory. By Solon I. Bailey. *The Popular Science Monthly*, LXIV, 6.
Direct and Retrograde Rotation of the Planets. By W. H. Pickering. *Astron. Nach.*, CLXIV, 201.
Recent Studies of the Martian and Lunar Canals. By W. H. Pickering. *Popular Astronomy*, XII, 77.
The Double Canals of Mars. By W. H. Pickering. *Ibid.*, XII, 385.
An Explanation of the Martian and Lunar Canals. By W. H. Pickering. *Ibid.*, XII, 439.
The Declination of BD. + 50°.2146. By Edward C. Pickering. *Astron. Nach.*, CLXIV, 127.
Comet 1904 a. By Edward C. Pickering. *Ibid.*, CLXV, 159.
Mitteilung betr. den Saturnsmond Phoebe. By Edward C. Pickering. *Ibid.*, CLXVI, 31.
Veränderungen auf dem Mond. By Edward C. Pickering. *Ibid.*, CLXVI, 91.
Note on Saturn's Satellite Phoebe. By Edward C. Pickering. *Ibid.*, CLXVI, 159.

EDWARD C. PICKERING, *Director*.

THE MUSEUM OF COMPARATIVE ZOÖLOGY.

To the President and Fellows of Harvard College: —

The following is a synopsis of the instruction given during the past academic year in the laboratories of Zoölogy, Geology, and Geography of the Zoölogical and Geological Sections of the University Museum.

Eleven courses in Zoölogy were given by Professors Mark, Jackson, Parker, Castle, and Drs. Rand and Petrunkévitch, assisted by Messrs. Cole, Larrabee, Smith, and four Sub-Assistants. Three hundred and six students attended these courses, while four courses in Zoölogy were attended by thirty-four students from Radcliffe College.

In the Departments of Geology and Geography eighteen courses were given to five hundred and twenty-four students, and five courses to seventy-four students of Radcliffe. These courses were given by Professors Shaler, Davis, Jackson, Ward, Jaggar, J. B. Woodworth, and Mr. Smith, assisted by Messrs. Bell, Goldthwait, Gregory, Richards, Tower, Wood, and Sub-Assistants.

In the summer school, under the direction of Professor J. E. Woodman of Dalhousie College, Halifax, two courses in Geology and one course in Physiography were offered. Professor Woodman was assisted by Messrs. H. T. Burr and F. M. Wilder. The courses were attended by thirty-nine students.

Influenced by the establishment of additional marine biological stations for research in Atlantic waters, the Faculty of the Museum petitioned the Council of the Boston Society of Natural History to so alter the deed of gift to the trustees of the Museum that the income of the Humboldt Fund could be extended for the use of students pursuing investigations at the new stations in Bermuda and at the Tortugas.

The various reports of the assistants in charge of the collections announce a gratifying list of accessions to the stores of the Museum. All departments of the Museum already feel the influence of the expedition by which, through the generosity of Mr. John E. Thayer, our collections are being enriched. The significance of Mr. Thayer's expedition is of especial value. A student of nature himself, he is the son of Nathaniel Thayer, who in 1865, in the early infancy of the Museum, supplied its distinguished founder with all the means for the famous expedition to Brazil, the fruits of which are the basis of the immense storage collections now at Cambridge.

Among the larger accessions for the year is the extensive Flood collection, chiefly birds, received through Mr. J. E. Thayer, and the donation by Professor H. P. Johnson, who was formerly a student at the Museum, of his large and valuable collection of marine annelids, mostly from the Pacific Coast. Professor Johnson's gift is of especial value as it contains his many types and figured specimens.

Much has been done toward developing the new palaeontological exhibits. Upwards of one hundred and fifty fossil vertebrates have been mounted by Mr. Nelson and placed on exhibition. To the reptilian fauna of the North American Room and elsewhere, Mr. Nelson has added some twenty of his excellent preparations of recent form, including a large Anaconda.

The Museum was fortunate in securing for a part of the summer the services of Miss E. Wood of the United States Geological Survey. With the help of Dr. Jackson she selected a large amount of material for the Palaeozoic Room, and it is hoped now that this room will soon be accessible to the public. A new case has been installed in connection with the exhibit, illustrating methods in Thalassography, and, with the new instruments and apparatus expected, the exhibit promises to be one of peculiar interest.

The additions to the Library, as reported by Mr. Henshaw, are 5,588 volumes, parts of volumes, pamphlets, and maps, making the total number of volumes upward of forty thousand and pamphlets upward of thirty-three thousand.

The publications of the past year include thirteen numbers of the "Bulletin," with 921 pages and 191 plates, and two numbers of the "Memoirs," with 357 pages and 108 plates. Of the two "Memoirs," one is the Report on the Sponges of Mr. Agassiz's "Albatross" expedition of 1891, by E. V. Wilson (No. XXV); the other, Mr. Agassiz's final Report on the Coral Reefs of the Maldive Islands. Five numbers of the "Bulletin" are reports on the collections of the different expeditions of Mr. Agassiz, and four numbers are contributions from the Zoölogical Laboratory. Volumes XLII, XLIII, XLV, XLVI, and XLVII of the "Bulletin," and Volumes XXV, XXVI, XXVII, XXX, XXXI, and XXXII of the "Memoirs" are now in course of publication.

W. McM. WOODWORTH,
Keeper of the Museum.

THE ZOÖLOGICAL LABORATORY.

To the President of the University: —

Sir, — The number of students from each of the several classes and departments of the University attending the courses in Zoölogy during the academic year 1903–04 is shown in the following table, the numbers printed in italics indicating students from the Lawrence Scientific School: —

Courses, 1903–04.	Grad.	Sen.	Jun.	Soph.	Fresh.	Spec.	Bussey.	Total.
Zoölogy 1	3	7+*2*	15+*8*	42+*10*	35+*10*	5+*13*	1	108+*43*=151
" 2	. .	4	9+*3*	19+ *5*	2+ *2*	1+ *1*	..	35+*11*= 46
" 3	3	5+*2*	9+*6*	1+ *2*	1	*2*	..	19+*12*= 31
" 4	3	1+*2*	1+*2*	*1*	. . .	*1*	..	5+ *6*= 11
" 5	4	2+*3*	2+*2*	*1*	. . .	*1*	..	8+ *7*= 15
" 9	3	1	. . .	*1*	. . .	. .	..	4+ *1*= 5
" 9*a*	. .	1	. . .	1+ *2*	. . .	. .	..	2+ *2*= 4
" 11	4	1+*1*	. . .	1	. . .	*1*	..	6+ *2*= 8
" 13	5	*1*	*1*	*1*	. . .	*1*	..	5+ *4*= 9
" 15	8	*1*	*1*	*2*	. . .	*1*	..	8+ *5*= 13
" 20	10	*1*	. . . .	*1*	. . .	*1*	..	10+ *3*= 13
Sums	43	22+*13*	36+*23*	64+*26*	38+*12*	6+*22*	1	210+*96*=306

The following table shows the number of students of Radcliffe College who took courses in Zoölogy: —

Courses, 1903–04.	Sen.	Jun.	Soph.	Fresh.	Spec.	Total.
Zoölogy 1.	6	4	10	5	3	28
" 2.	. . .	. . .	2	. . .	. . .	2
" 3.	1	1	. . .	. . .	. . .	2
" 5.	1	1	. . .	. . .	. . .	2
Sums	8	6	12	5	3	34

At the beginning of the year Dr. Alexander Petrunkévitch was approved as Docent in Zoölogy to give, in the second half-year, a course in Cytology. No fundamental changes have been made in any of the courses of instruction as compared with the preceding year. Minor changes are noted in connection with the accounts of the several courses.

In Zoölogy 1, given by Professor Parker, the lectures on Evolutionary Zoölogy were rewritten and illustrated by living guinea-pigs and rabbits belonging to the laboratory, and reared by Professor Castle. The work of students in the laboratory has been facilitated by improved accommodations for storing separately the material and notes of each student, and a case has been built and placed in the lecture-room for such illustrative material as is most used in this course. By this means the janitor will be spared much time hitherto employed in transporting specimens from the fourth to the first floor and back again.

The Chief Assistant in this course in Harvard College was Mr. Grant Smith; the Sub-Assistants, Messrs. I. A. Field, A. D. Howard, and S. O. Mast. The Assistant in Radcliffe College was Mr. J. A. Long.

The number of lectures in Zoölogy 2, given by Professor Castle, was slightly increased (to thirty-six). To the animals studied in the laboratory was added Amphioxus, the time for this being taken from the time heretofore given to the study of the frog. The Chief Assistant in the course was Mr. L. J. Cole, Austin Teaching Fellow, whose place was taken, during his absence for a considerable part of the second half-year in Yucatan, by Mr. J. H. McClellan. The Sub-Assistants were Messrs. D. W. Davis and I. A. Field.

Dr. Rand conducted, as previously, Zoölogy 3. The lectures were substantially as in the preceding year, but in the interest of students wishing to take, in the second half-year, work in Neurology (Zoölogy 15), the lectures on the nervous system were transferred from the second to the first half-year. Mr. A. P. Larrabee was Assistant in the laboratory work. One student, Mr. J. L. Ulrich, undertook, jointly with the instructor, the study of a special problem in anatomy, the results of which will be later offered for publication. Some progress has been made in increasing both the demonstration material and that designed for use by students in their laboratory exercises. Dr. Rand believes that the course might be considerably improved by a plan which would diminish slightly the number of lectures, and increase the number of conferences, so that the correlation between laboratory exercises and lectures could be made more evident and instructive.

As for several years past, the laboratory work in Zoölogy 4, in both Harvard and Radcliffe, was under the immediate charge of Dr.

Rand, who also gave five lectures on the anatomy and histology of the Hirudinea. The remaining lectures, given by Professor Mark, covered about the same ground as in the previous year, and the material studied in the laboratory was Glossiphonia.

In Zoölogy 5 the lectures, by Professor Mark, dealt chiefly with selected problems, and were supplemental to the reading required on the general outlines of Vertebrate Embryology. In the laboratory less time than heretofore was given to the technical part of the work, and more to the study of chick embryos and preparations made from them. Dr. Rand had charge of the laboratory work both in Harvard University and Radcliffe College.

Professor Jackson's courses in Palaeontology (Zoölogy 9 and 9*a*) were larger than in the preceding year. Considerable addition was made to the teaching material, chiefly from collections made at the Bermuda Biological Station in the summer of 1903, by Messrs. T. Barbour, O. Bryant, and F. W. Carpenter.

The lectures in Zoölogy 11, by Professor Castle, were largely rewritten, and their preparation occupied a considerable portion of the instructor's time. Each of the eight students to whom was assigned a topic for special study made satisfactory progress, either in the accumulation of data, or otherwise, and the results of their work will ultimately be incorporated in reports on the various topics.

The lectures and the laboratory work in Zoölogy 13 were modified by reducing the amount of time given to nervous tissues, and adding a consideration of cartilage and cuticula. The course was thus made to include a study of representatives of all four classes of tissues; it was given, as previously, by Professor Parker.

Zoölogy 15 was also given by Professor Parker, as usual. The lectures were largely revised. The laboratory topics were in two cases identical with those pursued in Zoölogy 20. The results from studies on five of the eleven remaining topics will be presented for publication later.

There were enrolled in the course on Cytology, by Dr. Petrunkévitch, nine students. Two lectures a week were given during the second half-year, illustrated by an extensive series of microscopic preparations and followed by informal discussions. There were no examinations, and the course did not count toward the attainment of any degree. Some of the topics treated of were: The structure of protoplasm with relation to its chemical and physical qualities; the structure of the nucleus and the mechanism of cell-division; the *de novo* formation of centrosomes and the hypothesis of their individuality; the reduction division in ovogenesis and spermatogenesis, with special reference to the formation of tetrads; the meaning of fertilization and of parthenogenesis, both natural and artificial.

Researches (Zoölogy 20) were carried on during the year by thirteen students. Of these two were under the supervision of Professor Castle, three under Professor Parker, and eight under Professor Mark. As in the preceding year, additional time for research work was in a few cases gained by allowing the student to meet the laboratory requirements in some of the formal courses (11 and 15) by devoting his laboratory time in those courses to the topic of his research. Of the two students working under the guidance of Professor Castle, one — Mr. G. M. Allen — has presented the results of his studies in the form of a thesis for the Ph.D. degree. The studies of the other have resulted in showing that the alternative conditions of the optic chiasma in certain bony fishes are not hereditary. Satisfactory progress has been made by those carrying on their work under the supervision of Professors Parker and Mark. Messrs. F. W. Carpenter, Grant Smith, and Porter E. Sargent have presented the results of their work as theses for the Doctor's degree, and the theses have been approved by special committees appointed to examine and report upon them.

In June, 1904, the degree of Doctor of Philosophy was conferred on three candidates in Zoölogy: Mr. Glover Morrill Allen, whose thesis was on "The Heredity of Coat Color in Mice"; Mr. Frederic Walton Carpenter, whose thesis was on "The Development of the Oculomotor Nerve, the Ciliary Ganglion, and the Abducent Nerve in the Chick"; and Mr. Grant Smith, whose thesis was entitled "On the Eyes of Certain Pulmonate Gastropods, with Special Reference to the Neurofibrillæ in Limax maximus."

Professor Parker has conducted experiments on the lateral-line organs of fishes for the United States Fisheries Bureau, and, in conjunction with Miss Adele M. Fielde, on reactions of ants to material vibrations. He has also delivered a number of public lectures at the Brooklyn Institute of Arts and Sciences, and elsewhere, on human sense organs; has written a number of reviews for the "American Naturalist," and has had considerable editorial work to do.

Professor Castle is continuing his experimental study of heredity in guinea-pigs and rabbits, and breeding experiments with insects. He has published during the year "Contributions," No. 146, and has republished "Contributions," No. 136, with some additions and alterations, in *Science*, N. S., Vol. 18, No. 456, pp. 396–406, Sept. 25, 1903. Other publications not in the "Contributions" are: "The Heredity of 'Angora' Coat in Mammals." *Science*, N. S., Vol. 18, No. 467, pp. 760–761, Dec. 11, 1903; and "Sex Determination in Bees and Ants." *Science*, N. S., Vol. 19, No. 479, pp. 389–392, March 4, 1904. He has also written reviews published in the "American Naturalist."

Dr. Rand has completed a rather lengthy paper on "The Behavior of the Epidermis of the Earthworm in Regeneration," which will soon be published in Roux's "Archiv für Entwickelungsmechanik," and has nearly ready for publication — in collaboration with John L. Ulrich — a paper on "The Posterior Connections of the Lateral Vein of the Skate." He also has under way further studies on "Regeneration in the Earthworm."

Dr. Petrunkévitch has published "Künstliche Parthenogenese," Festschrift zum 70. Geburtstag des Herrn Geheimen Raths Prof. Dr. August Weismann in Freiburg i. B. Zool. Jahrb. Suppl. VII., 62 pp., 3 Taf.; and "Gedanken über Vererbung." Freiburg i. B., Speyer und Kaerner, 1904, 83 pp.

The Virginia Barret Gibbs Scholarship for 1903–04 was held by Mr. John H. McClellan, a graduate of the University of Michigan, and subsequently Instructor in Zoölogy in the University of Illinois.

Five persons, including one instructor, carried on work at Wood's Hole during the summer of 1904; one, at the Marine Biological Laboratory, and four, at the United States Fisheries Bureau. Of the latter, two were in the employ of the Bureau.

Two persons working at the United States Fisheries Bureau in Wood's Hole, and one at the Bermuda Biological Station received aid from the Humboldt Fund amounting in all to $92.85.

Professors Castle and Mark received from the Trustees of the Carnegie Institution of Washington a grant of $500 to aid in the study of questions of heredity.

The Zoölogical Club held meetings on Wednesday afternoons throughout most of the year. The topics presented were usually announced in advance in the "Calendar." There were twenty-five meetings, at which fifty-four papers were presented, twenty-nine of these being based on original researches. Under the auspices of the Club, a public lecture was given April 13, 1904, by Dr. Hans Gadow, of Cambridge, England, on "Southern Mexico and its Natural History."

Some of the results of the work carried on at the Bermuda Station during the summer of 1903 have already been handed in, and three papers based on this work have been printed; others are in preparation. These papers are published in various suitable journals as "Contributions from the Bermuda Biological Station for Research," and are numbered in the order of their publication. The three already published are: —

No. 1. **Cole, Leon J.** — Pycnogonida collected at Bermuda in the Summer of 1903. *Proc. Bost. Soc. Nat. Hist.*, Vol. 31, No. 8, pp. 315–328. pls. 20–22. July, 1904.

No. 2. **Gulick, Addison.** — The Fossil Land Shells of Bermuda. *Proc. Acad. Nat. Sci.*, Philadelphia, 1904, pp. 406–425. 3 maps and pl. 36. April [June 25], 1904.

No. 3. **Bowditch, Harold.** — A List of Bermudian Birds seen during July and August, 1903. *Amer. Nat.*, Vol. 38, No. 451, pp. 555–563. July–August [September], 1904.

There were fifteen persons enrolled at the Bermuda Station during the summer of 1904. Of these, six were, or had been, connected with Harvard University. It was found that Amphioxus existed in abundance at many localities, and the much rarer Asymmetron lucayanum Andrews was discovered for the first time in Bermuda. Living specimens of both these Acraniota were brought to Cambridge.

The retrenchment which has been compelled by the present condition of University finances has reduced by half the amount of money appropriated by the Corporation for the expenses of the Department and for the publication in the Museum Bulletin of Contributions from the Zoölogical Laboratory. This will necessitate the publication of a greater proportion of the Contributions in other journals than has hitherto been customary.

CONTRIBUTIONS FROM THE ZOÖLOGICAL LABORATORY FOR THE ACADEMIC YEAR 1903–04.

143. **Parker, G. H.** — The Skin and the Eyes as Receptive Organs in the Reactions of Frogs to Light. *Amer. Jour. of Physiol.*, Vol. 10, No. 1, pp. 28–36. September, 1903.

144. **Howard, A. D.** — On the Structure of the Outer Segments of the Rods in the Retina of Vertebrates. *Amer. Nat.*, Vol. 37, No. 440, pp. 541–550. September, 1903.

145. **Breed, R. S.** — The Changes which occur in the Muscles of a Beetle, Thymalus marginicollis Chevr., during Metamorphosis. *Bull. Mus. Comp. Zoöl.*, Vol. 40, No. 7, pp. 315–382. 7 pls. October, 1903.

146. **Castle, W. E.** — The Laws of Heredity of Galton and Mendel, and Some Laws Governing Race Improvement by Selection. *Proc. Amer. Acad. Arts and Sci.*, Vol. 39, No. 8, pp. 221–244. November, 1903.

147. Carlton, F. C. — The Color Changes in the Skin of the so-called Florida Chameleon, Anolis carolinensis Cuv. *Proc. Amer. Acad. Arts and Sci.*, Vol. 39, No. 10, pp. 257–276. 1 pl. December, 1903.

148. Lander, C. H. — The Anatomy of Hemiurus crenatus (Rud.) Lühe, an Appendiculate Trematode. *Bull. Mus. Comp. Zoöl.*, Vol. 45, No. 1, pp. 1–28. 4 pls. January, 1904.

149. Peters, A. W. — Metabolism and Division in Protozoa. *Proc. Amer. Acad. Arts and Sci.*, Vol. 39, No. 20, pp. 439–516. April, 1904.

150. Hall, R. W. — The Development of the Mesonephros and the Müllerian Duct in the Amphibia. *Bull. Mus. Comp. Zoöl.*, Vol. 45, No. 2, pp. 29–125. 8 pls. June, 1904.

151. Bigelow, H. B. — The Sense of Hearing in the Goldfish Carassius auratus L. *Amer. Nat.*, Vol. 38, No. 448, pp. 275–284. April [June], 1904.

E. L. **MARK**, *Director*.

DEPARTMENT OF GEOLOGY AND GEOGRAPHY.

To the President of the University: —

Sir, — As Chairman of the Department of Geology and Geography, I have the honor to submit the following report for the year 1903–04.

There were no changes of note in the instruction given during the academic year 1903–04, as compared with that of the previous year. Geology *A* was given by Mr. P. S. Smith, and the following acted as assistants in the courses named: Mr. P. S. Smith, in 4 and 8; Mr. J. M. Bell, in 5; Mr. W. S. Tower, in *A* and *B*; Mr. J. W. Goldthwait, Austin Teaching Fellow, in 4 and 5; Mr. W. M. Gregory, in 11 and 14; Mr. R. W. Richards, in 22; and Mr. H. O. Wood, in 9 and 22. Messrs. A. K. Adams, L. O. Packard, and H. E. Simpson served as student-assistants in Geology 5.

In addition to the two elementary summer courses in geology and in physiography, given by Professors Shaler and J. E. Woodman, and by Messrs. H. T. Burr and F. M. Wilder respectively, four other more advanced courses were given, and thus a very notable extension of summer instruction in geology was brought about. After correspondence, conducted by Professor Davis, with the geological departments of a number of other universities, a plan was adopted for publishing a "Joint Announcement" in which all the field courses in geology, to be given by Chicago, Columbia, Harvard, Johns Hopkins, and Yale, during the summer of 1904, were described. The contribution made by Harvard included the following courses: S3*a*, Investigation in Pleistocene Geology (in New York State), Professor J. B. Woodworth; S3*b*, Investigation in Structural Geology and Physiography (in the Wahsatch Mountains), Professor Davis; S4*a*, General Field Geology (in the Black Hills, South Dakota, and the Big Horn Mountains, Wyoming), Professor T. A. Jaggar, Jr.; S4*b*, General Field Geology (in the Colorado Rocky Mountains), Mr. C. H. White, of the Department of Mining and Metallurgy. Students were enrolled in all these courses, and all the courses could, by vote of the Faculty, be counted towards the degree. Yale University agreed to give credit to those of its students who satisfactorily completed any of the courses, and the Massachusetts Institute of Technology did the same with reference to Course S4*a*.

Thus a very welcome spirit of coöperation was present throughout the whole undertaking, and it is sincerely to be hoped that the plan may be further developed in the summer of 1905. Several friends of the Department gave scholarships for use in the Rocky Mountain courses, thus greatly stimulating interest in this instruction, and making it possible for deserving students to take up the work from which they would otherwise have been debarred. These scholarships were awarded to graduates of Amherst and Cornell (Iowa) Colleges, now students in the Graduate School; a Harvard graduate, now teaching elsewhere; a graduate of the Massachusetts Institute of Technology, and a student at Yale University.

The Department gratefully acknowledges the following gifts: $5,000 from Miss Maria Whitney, to be known as the "Josiah Dwight Whitney Fund," the income of which is to be used for scholarships "to aid meritorious students in the study of field geology or geography in the summer months, preferably in the mountain region of the western United States"; $500 from several friends of the Department for four scholarships in the summer courses in geology in the Rocky Mountains; $200 from Mr. John L. Gardner for photographs from the governmental surveys; $200 from an anonymous donor to be applied towards the establishment of a meteorological observatory; $200 from two friends of the Department for special lectures; about $100 from a fund left by the New England Meteorological Society, to be expended in the purchase of meteorological instruments; $100 from Mr. George A. Gardner, of the Visiting Committee on Geology and Mineralogy, to be expended in building and installing cases in the geological exhibition rooms, and, through the generosity of Mr. Alexander Agassiz, a gift from the Museum of Comparative Zoölogy of some exhibition cases recently removed from the African room in that Museum. With the two last mentioned gifts, and with a slight addition from the funds of the Department, two cases have now been erected in the large exhibition room of the Geological Museum, and are ready for the installation of materials.

In November and December, 1903, six illustrated public lectures were given in the Geological Lecture Room on successive Friday afternoons, at 4.30 o'clock. The subjects of these lectures were as follows: 1. The Natural History of the Diamond, Professor Palache. 2. The Climate of the Philippines, Professor Ward. 3. The Glacial Geology of Southeastern Massachusetts, Professor J. B. Woodworth. 4. Evidences for Evolution illustrated by certain Fossil Types, Professor R. T. Jackson. 5. Some Geological Problems of the

Yellowstone National Park, Professor Jaggar. 6. The History of Niagara, Professor Davis.

Professor Shaler left Cambridge early in January, returning in June. During his absence, the remaining lectures in Geology 14 were given by Professor R. T. Jackson, and in Geology 4 by Professor Jaggar.

Professor Davis states that the preparation of a report on his journey across Turkestan in the summer of 1903, as a member of Mr. Raphael Pumpelly's Carnegie Institution Expedition, has occupied much time during the past winter. Lectures upon the journey have been given before the Geographical Societies of Boston, New York, Philadelphia, Baltimore, and Washington, as well as before the Harvard Travellers Club in Cambridge, and the Natural History Society and the Appalachian Mountain Club in Boston. Mr. Ellsworth Huntington, associate of Professor Davis in Turkestan, remained there after the return of the latter, and made an interesting journey through the heart of the Tian Shan to Kashgar in the Tarim basin of Chinese Turkestan, and thence westward to Ferghana in Russian Turkestan. His observations prove a succession of several glacial epochs, and corroborate some of Professor Davis's conclusions. The usual courses of instruction were given by Professor Davis during the academic year. In the advanced course (Geology 20), special studies have been made by several Graduate Students on shore forms of Lake Michigan, glacial cirques in the Rocky Mountains, river meanders and cut-offs, river systems of Iowa, piedmont fluviatile plains, glacial sand plains in the Sudbury valley, Mass., the gorge of the Tennessee river at Chattanooga, and other problems: these studies have for the most part been based on field work and extended by reading and discussion. The study of the gorge of the Tennessee river, by Mr. D. W. Johnson, instructor at the Massachusetts Institute of Technology, included two weeks of field work in the Chattanooga District. In the course on the Physiography of Europe (Geology 7), increased use has been made of graphic exercises, chiefly in the drawing of typical diagrams from large scale maps: this innovation has proved instructive and it will probably be systematically extended hereafter. During July, Professor Davis visited Utah with a small party of advanced students, to continue his studies of the mountain ranges of the Great Basin. In September he accompanied the excursion of the Eighth International Geographic Congress to the Colorado Canyon and Mexico.

Professor R. T. Jackson reports that the teaching collections in palaeontology are in good condition. Some additions were made by purchase, and a number of enlarged photographic diagrams for teaching purposes were added to the laboratory equipment.

Professor Ward reports the purchase, with the money left by the New England Meteorological Society, of two nephoscopes, of the Blue Hill pattern, especially constructed by Mr. S. P. Fergusson, and of a Richard thermograph and hygrograph. With the further anonymous gift of $200, above mentioned, it will now be possible to begin the establishment of a small working meteorological observatory, which is an absolute necessity if adequate instruction in meteorology is to be given. With two or three hundred dollars more, a comparatively complete instrumental equipment could be purchased. During the year, Stanislav Hanzlik, Ph.D. in meteorology of the University of Prague, a Graduate Student in this Department, devoted himself especially to a study of the climatology of the United States, and to an investigation of the movements of cyclones in the United States. A thesis prepared by him in Geology 26, on the "Geographical Distribution and Movement of Cyclones of High Velocity in the United States," is shortly to be published. During the summer, with the coöperation of the Librarian of the University, the meteorological and climatological books and maps on deposit in the Geological Museum were rearranged, classified and catalogued. The collection is now in excellent order. In September, Professor Ward attended the meetings of the International Geographic Congress in Washington and New York, and served as chairman of the section on Meteorology and Terrestrial Magnetism.

Professor J. B. Woodworth reports that in Geology 16 (Glacial Geology) Mr. W. S. Tower made a careful search of the coast north and south of Boston for evidences of change of level, and Mr. C. H. Paige, in addition to local field work, searched the New England reports for records of glacial striae and carefully plotted them on a map ready for publication. Three students continued the work of this course in the second half-year as members of Course 23. Mr. G. C. Curtis also prepared for publication a brief report on the elevated shore lines of Monhegan Island, Me. Partly to supplement the work on glacial geology, and partly to make use of a large number of instructive field localities south of Boston, Professor Woodworth now offers, in alternate years with Geology 16, a new half-course on the Carboniferous period. The rock collections of the laboratory of general geology were increased during the year by the purchase of a set of the Oscar Rohn collection of rocks illustrating the geology of the Lake Superior district. Mr. P. S. Smith gave to the laboratory his own collection of rocks from the Black

Hills of South Dakota. The Department is also indebted to Mr. George D. Keyser for specimens of crystalline rock salt from the lake beds near Gunnison, Utah. Sixty pieces of pumice from the streets of St. Pierre, Martinique, together with one volcanic bomb from Mount Pelée, were purchased. A Locke hand-level and a camera were added to the field equipment, and at the request of Professor Stanislas-Meunier, of the Museum of Natural History in Paris, Professor Woodworth has sent to that institution a small exhibit representing some recent studies of trails in the Saratogan sandstone. As a member of the New York State Museum, Professor Woodworth continued his field investigations during September, 1903, and in the summer of 1904, in New York and over parts of Canada from Ottawa to Beloeil Mt., Quebec, and in parts of Vermont. During the winter and spring, reports were prepared upon the surface geology, including the elevated shore lines of the Mooers' quadrangle in Clinton County, N. Y., and upon the larger question of the ancient water-levels of the Hudson and Lake Champlain valleys. As contributory to the preparation of these reports, trips were made to Washington, D. C., during the mid-year period, and to certain localities in the Hudson valley during the April recess.

Professor Jaggar reports that the advanced field course in geology was taken by fourteen students, who completed the survey of the metropolitan district of Boston, which was commenced in 1900, at the time when the work was first given into Professor Jaggar's charge. A large topographic map was prepared, showing the entire metropolitan district, with topography compiled from the best available sources, and on this map all of the geological records of the past five years were inscribed in color. This map will be put on exhibition beside the large Boston Model, which is now open to the public. Mr. R. W. Richards made a large number of photographs in illustration of the field work of the year, and Mr. Wood supervised the cataloguing and recording of all the specimens which have been collected in the metropolitan district. Professor Jaggar continued his work as a teacher in the Massachusetts Institute of Technology, and one student from that institution was given a course in experimental geology in the Harvard Laboratory in the spring of 1904. In December, 1903, Professor Jaggar spent three weeks in a mining camp in Searchlight, southern Nevada, making investigations for the Quartette Mining Co., of Boston.

Mr. P. S. Smith conducted the course in elementary physiography along the same lines as in previous years; and, as previously noted, also acted as assistant in Courses 4 and 8. Mr. Smith spent much time in the preparation of a thesis on the Copper Sulphide Deposits of Orange County, Vermont, which was accepted for the degree of Ph.D. The degree was conferred in June, 1904. During the summer of 1904, Mr. Smith was engaged in a study of the surface features of the southeastern portion of Cape Cod, in connection with the retreat of the ice sheet and the development of present day topography.

The committee on the Gardner Collection of Photographs (Professors J. B. Woodworth, chairman, and R. DeC. Ward, and Mr. P. S. Smith) reports as follows: —

	Photographs.	Slides.	Negatives.
Accessions since last report	12	740	45
Catalogued since last report	4	472	..
Unidentified views	253	30	..
Duplicates	144	51	..
Broken	..	1	..
Last accession No., June 27th	5654	4308	..
Number now in Collection	5495	4520	1109

The noteworthy additions during the year consist of a set of stereopticon views purchased from Professor H. W. Fairbanks, of the University of California, and of a collection of 382 slides purchased from the series of the U. S. Geological Survey. This purchase was made by means of a fund generously given to the Department by Mr. John L. Gardner. Mr. Smith continued throughout the year to give much time to the cataloguing and care of the collections.

The following publications were issued during the year: —

By W. M. Davis: —

The Mountain Ranges of the Great Basin. *Bull. Mus. Comp. Zoöl.*, Geol. series, VI, 1903, pp. 129–177, 7 pls.

A Summer in Turkestan. *Bull. Amer. Geogr. Soc.*, XXXVI, 1904, pp. 217–228.

A Flat-topped Range in the Tian Shan. *Appalachia*, X, 1904, pp. 277–284.

Geography in the United States. *Proc. Amer. Assoc. Adv. Science*, 1904; *Amer. Geol.*, XXXIII, 1904, pp. 156–185.

By R. T. Jackson: —

Charles Emerson Beecher. *Amer. Nat.*, Vol. XXXVIII, 1904, pp. 407–426.

By R. DeC. Ward: —

The Climate of South America. *Bull. Amer. Geogr. Soc.*, XXXV, October, 1903, pp. 353–360.

Our Changeless Winters. *Boston Transcript*, February 20, 1904.

"Sensible Temperatures." *Bull. Amer. Geogr. Soc.*, XXXVI, March, 1904, pp. 129–138.

The Climates of the United States: An Outline. *The Geographical Teacher*, II, June, 1904, pp. 212–218.

Reviews and Notes in *Science*, *Bull. Amer. Geogr. Soc.*, and *Journal of Geography* (throughout the year).

By J. B. WOODWORTH: —

Bibliographic Aids in Geology, Geography, Mineralogy, Petrography, Palaeontology, and Meteorology (with shelf key). Printed by the University. 3 pages.

Review of the Evolution of the Earth's Structure, by T. M. Reade. *The Nation*, 1904.

Administrative Report of work done in New York. Embodied in Report of the State Geologist, Dr. F. J. H. Merrill, for 1901. *55th Annual Report of the N. Y. State Museum*, Albany, 1903, pp. r9–r14.

By T. A. JAGGAR, Jr.: —

The Initial Stages of the Spine on Pelée. *Amer. Journ. Sci.*, Vol. XVII, January, 1904, p. 34.

The Eruption of Pelée, July 9, 1902. *Popular Science Monthly*, January, 1904, p. 219.

The Eruption of Mount Pelée, 1851. *Amer. Nat.*, Vol. XXXVII, No. 445, p. 51.

By P. S. SMITH: —

The Copper Deposits of Vermont (with H. L. Smyth). *Eng. and Min. Journ.*, LXXVII, April 28, 1904, pp. 677–678.

By E. HUNTINGTON and J. W. GOLDTHWAIT: —

The Hurricane Fault in the Toquerville District, Utah. *Bull. Mus. Comp. Zoöl.*, Geol. series, VI, 1904, pp. 199–259.

ROBERT DeC. WARD, *Chairman.*

THE DEPARTMENT OF MINING AND METALLURGY.

To the President of the University: —

Sir, — The number of students enrolled in the programme of Mining and Metallurgy at the beginning of the academic year 1903–04 was 68. The corresponding figures since 1894–95, when the course was established, are given in the following table, which includes also the total attendance in the Lawrence Scientific School during the same years, as well as the percentage of the whole number which the mining students formed.

	'94–95	'95–96	'96–97	'97–98	'98–99	'99–00	'00–01	'01–02	'02–03	'03–04
Students in Mining and Metallurgy .	6	7	13	17	19	30	42	67	75	68
Students in the L. S. S.	308	340	368	410	415	495	507	549	584	548
Per cent.	1.9	2.1	3.5	4.1	4.6	6.1	8.3	12.2	12.8	12.6

During the past three years this proportion has been practically constant at about one-eighth of the total enrolment. It therefore seems probable that no great gain in the number of students in Mining and Metallurgy is to be expected in the near future, except as part of a general increase in the Lawrence Scientific School.

The table below shows the growth of the Department in instructors, including assistants, and in courses offered during the same period.

	'94–95	'95–96	'96–97	'97–98	'98–99	'99–00	'00–01	'01–02	'02–03	'03–04
Instructors . . .	1	1	2	2	3	4	4	7	8	9
Full courses . . .	..	..	2	2	2	2	4	4	4	5
Half courses . . .	..	..	3	3	4	5	7	9	11	11

In the programme in Mining and Metallurgy in the Scientific School a maximum of twenty-six courses is required for the degree of S.B. Twenty-three of these are taken in Cambridge during term time, while the other three come in parts of two summer vacations, and cover an aggregate of seventeen weeks. The manner in which the work of the student is distributed between the lecture-room and the laboratory, as well as between the various departments of study, is exhibited in the table below, which does not include the work of the summer vacations.

Hours of Required Attendance, in the Lecture-room and Laboratory, in the Four Years' Course in Mining and Metallurgy.

	Mining.			Metallurgy.		
	Lectures.	Laboratory.	Total.	Lectures.	Laboratory.	Total.
Language	210	. .	210	210	. .	210
Mathematics	210	. .	210	210	. .	210
Physics	112	140	252	112	140	252
Chemistry	90	526	616	118	750	868
Engineering	448	462	910	448	462	910
Geology and Mineralogy . .	245	294	539	231	246	477
Mining	252	273	525	147	273	420
Metallurgy	126	105	231	168	189	357
Total	1693	1800	3493	1644	2060	3704

This table shows that a total of about 3,500 hours is required in the case of students who specialize in Mining, and about 3,700 hours from those who specialize in Metallurgy. The average for each course is about five and a half hours a week. If to this be added the time that must be spent outside the lecture-room and laboratory, in reading, solving problems, and preparing theses and reports, it is probable that the average time given by the student to each course in this programme does not fall below nine hours a week.

Experience shows that only students of more than average ability and diligence can complete the programme. Many who enter on it drop out and secure easier degrees in General Science or by transferring to Harvard College. That the graduates of the Department are of more than average ability and earnestness is proved by the fact that a large majority of them have obtained the degree with distinction. The total number of men who have attained the degree of S.B. in Mining and Metallurgy down to and inclusive of 1903–04 is thirty-two. Twelve of these have taken the degree *cum laude*, six *magna cum laude*, and two *summa cum laude*.

The most important event of the year to the Department was the establishment of the professional degrees of Mining Engineer and Metallurgical Engineer for a fifth year of work.

The reasons that led the Faculty and the Governing Boards to institute these degrees were the following: —

Except Harvard and the Massachusetts Institute of Technology, all the important universities and scientific schools in the country, in which Mining and Metallurgy are taught, give the Engineer's degree to students who have completed the course. These degrees, therefore, are generally recognized as the usual and proper certificates of the satisfactory completion of such work as is carried on under this Department, and our graduates, particularly in the early years of their professional life, have been at a disadvantage in not having them.

With the increasing demands on the Mining and Metallurgical Engineer, his training, even with an extensive utilization of the vacations, cannot be compressed into four years, but ought to include at least five years of study. With the present organization of the Lawrence Scientific School, this means that a year must be added to the ordinary four years' course. It seemed to the Faculty better to give for the purely technical work of a fifth year a technical degree that accurately indicates the nature of work done, rather than the degree of Master of Science, which may stand for work in any one of a dozen lines of scientific specialization.

With the high requirement adopted, these degrees will become very desirable, and the Department expects that most of its better students will take them.

In the rearrangement of the programme, made necessary by the establishment of the professional degrees, the Department took occasion to try the experiment of massing the class-room work of the third and fourth years, as far as possible, in the mornings of three days of the week, leaving the afternoons and alternate days free for laboratory or field work. When lectures come in non-consecutive hours, the intervening hour is usually wasted by the student, since the time is too short to accomplish anything in the laboratory or to return to his room for study. Furthermore, by massing the laboratory work, it is possible to accomplish very much more in one whole day than in two half-days, and in one half-day than in broken hours. It is too soon to say whether this experiment will be successful and commend itself to the students. Experience so far seems to indicate a radical difference of opinion between the members of the fourth-year class, who unanimously favor it, and the members of the third-year class, who find it disadvantageous. No good reason for this difference of opinion has yet been discovered.

The Department also undertook another interesting experiment in the form of a Coöperative Summer School of practical mining in conjunction with Yale, Columbia, and the Massachusetts Institute of Technology. Professor John Hays Hammond of Yale suggested this experiment, for which Mr. George Crocker, of San Francisco, furnished the money. At meetings of a committee made up of Professors Hammond and Chittenden of Yale, Richards of the Massachusetts Institute of Technology, Henry S. Munroe of Columbia, and H. L. Smyth of Harvard, Professor Munroe was appointed Academic Director, and the following general scheme was adopted: —

A mine, as well equipped as could be found, was to be leased and made use of for a period of two months for teaching purposes exclusively. A force of practical miners was to be employed to teach drilling, blasting, timbering, track-laying, etc. Each institution was to send instructors, one for every eight students, under whose direction and supervision the work was to be carried out. It was expected also that lectures by engineers in active practice on the sampling and valuation of mines, and other subjects of interest, would be given from time to time. Surveys, both surface and underground, were to be made, and also critical studies of the plant and its arrangement.

Summer Schools of Mining are not a new thing, for the institutions associated in the Crocker School have carried them on for several years. The novelty in this experiment was that instead of being dependent on the courtesy of mine owners and managers for facilities for work and study underground, the granting of which has become a heavy burden with the increase in the size of the classes, the students were to have a mine to themselves, run for no other purpose than to provide them with facilities for study.

In accordance with this plan, the Dives-Pelican Mine at Silver Plume, Colorado, was leased, and the School started early in June. Columbia sent forty students and five instructors; the Massachusetts Institute of Technology, twenty students and three instructors; Yale, eight students and two instructors; and Harvard, twelve students and two instructors, the latter being Messrs. C. H. White and H. C. Boynton.

The work of the School was well planned and administered, and the results accomplished were highly satisfactory. All the institutions enjoyed advantages that were not possible before the establishment of the Crocker School, particularly in the new aids to instruction, namely, the exclusive use of a well-equipped mine, expert demonstrators, and a larger ratio of instructors to students. In the Crocker School there were about seven and a half students to an instructor, while in former years the ratio had been, in our own course, as high as twelve or fourteen students to an instructor.

All the schools reaped certain incidental benefits from this coöperative scheme. Among these benefits were a more intimate acquaintance among the instructors, and a better knowledge of the methods of instruction in use in the other schools; and consequently the opportunity for each to detect the weak as well as the strong points of his own. This better acquaintance undoubtedly will lead to improvement in instruction in all the schools. Students and instructors had every incentive to do their best from the spirit of friendly rivalry existing.

During the past year Dr. E. D. Peters, the eminent metallurgist, gave a course of twenty-five lectures, under this Department, on the metallurgy of copper. It is pleasant to state that this temporary connection has led to a permanent one, and that Dr. Peters will hereafter be with us as Professor of Metallurgy. Besides taking the old Metallurgy 3, Dr. Peters will conduct two new courses, 15 and 26.

While our graduates so far have found little difficulty in getting a start in their life-work, the members of the Department feel that the facilities for passing from the School to the Mine or Metallurgical Works ought to be better organized, and particularly that a system of apprenticeship ought to be established, by which the graduates of this Department could obtain practical experience, under the best auspices, analogous to that obtained by the young graduates of the Medical School in the hospital. An effort has been made to interest a number of Harvard men, who manage or control large mining and metallurgical enterprises, in this scheme, with such success that the experiment will be tried immediately.

The plan is essentially this: A young graduate recommended by this Department is to be taken as a technical apprentice by the mine or mill or smelter, for a period of a year, and is to be paid a living wage. The apprentice is to do any work that he may be assigned to, his tasks, however, in the course of the year being sufficiently varied to make the year's experience profitable to him.

The advantages to the graduate of beginning his career under good auspices are so manifest that such positions will soon come to be regarded as prizes to be eagerly competed for. For the managers, it seems equally certain that, having an option on the services of selected and highly trained young men will make the arrangement profitable to them. They will have besides the satisfaction that nearly all older men feel in helping deserving young men to make a start.

Most of the senior members of the Department, besides teaching in Cambridge, are engaged in professional work, either actively or in a consulting capacity. This close connection with practice has been favored by the University authorities, and has had excellent results.

The present members of the Department, during the past academic year, have published the following papers: —

By J. M. Bell: —

The Economic Mineral Resources of the Moose River Basin. *Annual Report of the Ontario Bureau of Mines*, 1904.

By H. C. Boynton: —

Troostite. *Journal of the Iron and Steel Institute*, London, 1904.

Sorbitic Steel. *Iron and Steel Magazine*, May, 1904.

By E. D. Peters: —

A Review of Pyritic Smelting. A series of ten papers. *Engineering and Mining Journal*, New York, June 2–August 11, 1904.

By A. Sauveur: —

The Iron and Steel Magazine (a monthly publication), Vols. VII and VIII (1904), Edited.

The Classification of Iron and Steel. *Proc. Am. Soc. for Testing Materials*, Vol. IV, 1904.

With Jasper Whiting: The Detection of the Finishing Temperatures of Steel Rails by the Thermo-Magnetic Selecter. *Proc. Am. Soc. for Testing Materials*, Vol. III, 1903.

With Jasper Whiting: The Casting of Pipeless Ingots by the Sauveur Overflow Method. *Proc. Am. Soc. for Testing Materials*, Vol. III, 1903.

With H. C. Boynton: Note on the Influence of the Rate of Cooling on the Structure of Steel. *Am. Inst. of Mining Engineers*, Vol. XXXIV, 1904.

A Correspondence Course in Metallography. Published by the Author.

By H. L. Smyth: —

The Sulphide Deposits of Orange County, Vermont. With P. S. Smith. *Engineering and Mining Journal*, April 23, 1904.

By C. H. White: —

The Appalachian River *versus* A Tertiary Trans-Appalachian River in Eastern Tennessee. *Journal of Geology*, Vol. XII, No. 1, February, 1904.

The Equipment of a Laboratory for Metallurgical Chemistry in a Technical School. *Trans. Am. Inst. Mining Engineers*, Atlantic City Meeting, February, 1904.

H. L. SMYTH, *Chairman.*

MINERALOGICAL MUSEUM AND LABORATORIES OF MINERALOGY AND PETROGRAPHY.

To the President of the University: —

Sir, — The year has been a successful one in the number and quality of the students receiving instruction in mineralogy and petrography. Among additions to the teaching equipment may be mentioned the installation of Nernst electric lamps with shades and blue glass shields at each window of the petrographical laboratory, enabling students to work with the microscope late in the afternoon hours when the daylight would be of insufficient strength. The mineral and rock material which is placed in the hands of our students has always been of good quality, but we have recently assured a supply for many years to come of an even better grade, by the purchase, at a very low price, of the entire stock of minerals and rocks from a dealer who retires from business.

In last year's report the reasons why it would be desirable to use artificial light in the mineralogical exhibition rooms were given at some length. Through the interest of a friend of the Museum we are now enabled to install the necessary lighting equipment. After consideration of different methods, and experiments with lights temporarily installed, the following plan has been decided upon: Nernst electric lamps will be used, owing to their powerful, steady, and nearly white light. Within each of the eight wall cases on both floors nine single-glower lamps will be placed, while the remaining flat cases will be lighted from the ceiling by three-glower and six-glower lamps with suitable shades. The equipment will include seventy-five single-glower, thirty-six three-glower, and four six-glower lamps, equivalent in candle power to about six hundred ordinary incandescent lamps, but requiring only a little over half the current. The installation will be such that a smaller or larger number of these units may be used independently according to the need for light. The whole system will be controlled by a main switch on the wall of the room, which will be thrown open except at such times as the lights are in use, thus excluding any fire-risk when the rooms are closed.

The Museum has received the usual number of gifts of minerals during the year; among them a number of fine minerals from Mr.

Clarence S. Bement, and students' material from Messrs. Bard and Wilson, former students in the laboratory; also from an anonymous friend the whole of a new iron meteorite from Cumpas, Mexico, weighing 63 pounds; and from the Pennsylvania Salt Co. an exhibit in glass jars of the mineral cryolite and its manufactured products.

The following papers have been published: —

A crystallographic study of Millerite. By CHARLES PALACHE and H. O. WOOD. *Amer. Journ. Sci.*, Vol. XVIII, 1904.

Geological and Mineralogical Notes. By CHARLES PALACHE. *Harriman Alaskan Expedition*, Vol. IV.

JOHN E. WOLFF, *Curator.*

THE PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

To the President of the University: —

Sir, — For three years, 1884–87, the late Senator Hoar took an active interest in the Museum as one of its trustees, holding this office as President of the American Antiquarian Society. Since then until his death, so universally mourned, he showed in many ways his appreciation of the work of the Museum, and was always ready to aid with his advice and influence. An enthusiastic student of American history, his breadth of view made him realize the importance of preserving and recording whatever would lead to a knowledge of prehistoric America, and it was to this end that he was always ready to secure consideration of our plans and wishes from the several departments of the national government. We should also remember that it was mainly through his influence, at the suggestion of the late Mrs. Mary Hemenway, in 1889, that the unique ruin in Arizona known as "Casa Grande" was saved from destruction and placed under government protection.

During the past year the Museum has issued — through the Committee of the Central American Research Fund — No. 1 of Vol. III of the Memoirs. This number is entitled "Archaeological Researches in Yucatan," by E. H. Thompson. It contains reports on the exploration of the prehistoric ruins of Xul, Tzulá and Chacmultun. These reports are illustrated by nine large plates, including three in color which represent the interesting paintings on the interior walls of the ruined edifice of Chacmultun.

The proceeds from the sales of the Museum publications — other than those issued by the Central American Research Fund — and from the sales of the remainder of the edition of the four volumes of the Journal of American Archaeology and Ethnology, received from the estate of Mrs. Mary Hemenway, have provided the means for the continuation of the octavo series to a limited extent. We have thus been able to issue No. 1 of Vol. III of the Papers, "The Cahokia and Surrounding Mound Groups," by D. I. Bushnell, Jr. This paper gives an accurate description of the largest earth mound in the United States, with maps, text illustrations, and five plates. The publication of this paper again calls attention to the importance of saving from destruction this great prehistoric monument.

For the publication of No. 2 of Vol. III of the Papers, "Exploration of Mounds in Coahoma County, Mississippi," we are indebted to Dr. Charles Peabody, who, assisted by Dr. W. C. Farabee, explored these mounds for two seasons. Dr. Peabody gave all the results of these expeditions to the Museum, where they help to fill a gap in our southern archaeological exhibit. He also assumed the entire cost of the publication of his report. The accurate record of the exploration and of the location of each object discovered, with a record of the human skeletons and their position in the mounds, as well as of the structure of the mounds, makes this paper one of special interest to the field archaeologist, while it gives important information to the student. Dr. Farabee has added to the paper an account of the human bones found during the exploration. In an Appendix Dr. Peabody has given a brief account, illustrated by two heliotype plates, of the "Copiah Wall," relating to which there has been much controversy of late years. The photographs and observations by Dr. Peabody show this "wall" to be a geological formation.

Miss Alice C. Fletcher, holder of the Thaw Fellowship, has continued her researches on the Omaha Indians and her work on the memoir which she is preparing. From time to time she has added to the Omaha collection in the Museum, and she hopes to make it still more complete, so that in connection with her memoir it will set forth the life and history of that one tribe. In all her work among the Omaha Indians she has had the invaluable aid of Mr. Francis La Flesche, a member of the tribe, who has also added important specimens to our Omaha Collection.

Mrs. Zelia Nuttall, Honorary Assistant in Mexican Archaeology, has for the past two years been engaged in Mexican researches for the University of California. At the meeting of the Congress of Americanists she read a paper on "A Penitential Rite of the Ancient Mexicans," which will soon be issued in our octavo series as No. 7 of Vol. I, completing that volume. Miss Mead has prepared an analytical index to the volume, which will be issued with this number.

Dr. A. M. Tozzer, who for several years has been connected with the Museum as a student in the Division of Anthropology, and who holds the American Fellowship in the Archaeological Institute of America, was given the degree of Ph.D. at the last Commencement. Dr. Tozzer is the seventh student in this department of the Graduate School who has received the doctor's degree. His thesis was based on his researches on the language and customs of the Mayas and

Lacandones. At the meeting of the Faculty of the Museum in December, 1903, he was elected Assistant in Central American Archaeology in the Museum. He was in Central America last winter, continuing his researches, and will return there for the season of 1904–05.

Dr. R. B. Dixon was in California during the summer vacation carrying on his researches on the language and myths of the Maidu Indians, in conclusion of his work of several seasons for the American Museum of Natural History. These researches are of importance to him in his courses in this Division.

Dr. W. C. Farabee, during the summer vacation, took charge of a party of fifteen students on a general archaeological and ethnological excursion through the southwest, visiting many of the ruins in New Mexico and Arizona, and the homes of the Navajo, Zuñi and Moki. Extending the trip to the Pacific, the party returned by different routes from California. On the return trip, Dr. Farabee visited several Indian tribes, and secured for the Museum a number of interesting specimens as well as important information for use in his course on General Anthropology.

The archaeological research in Central America has been continued by the aid of generous friends who are specially interested in the archaeological problems of that region. The work is under the direction of a special Committee of the Faculty of the Museum, and the results are published in the Memoirs of the Museum.

In January, 1904, the Corporation granted to the Peabody Professor a leave of absence for three months. This time was spent in performing his duties at the University of California as head of the Department of Anthropology in that University. During the summer vacation he was again in California looking after the installation of the Department in its temporary quarters at the Affiliated Colleges in San Francisco. During these trips to California, exchanges of a number of duplicate specimens were made, to mutual advantage, between this Museum and the Anthropological Museum of the University of California.

The year's income of the Henry C. Warren Fund was in part used for archaeological exploration in the Connecticut Valley by Mr. A. L. Dakin. During the last few weeks of the season, Mr. Dakin made an exploration of an Indian burial place in Ipswich. As is often the case, these burial sites did not yield much of importance, and the hope of obtaining skeletons was destroyed by the almost entire disintegration of the bones. The remainder of the income of this fund was employed in the exploration of an ancient

Iroquoian site in New York State. This work was under the immediate charge of Mr. M. Raymond Harrington, who was so successful last year in the exploration of an Erie site, the collection from which place is now on exhibition. Mr. Harrington was equally successful in this season's exploration and secured a number of skeletons and many specimens illustrating Indian arts and customs. Another important collection will thus be added to the exhibits of the archaeology of the eastern portion of the country, and the value to the Museum of this fund is again demonstrated.

With the income of the Huntington-Frothingham-Wolcott Fund we have been able to secure a considerable number of important specimens and small collections which were much needed to fill gaps in both the ethnological and archaeological exhibits in the Museum. The largest collection obtained consists of a series of rare and choice articles, collected many years ago in Australia, Melanesia and Polynesia, which have increased the importance of the exhibits from those regions. Many other rare specimens, which can be obtained only by chance, were secured by having the cash on hand. This fund is our only available and ready resource for such purposes, and many important specimens for the study of comparative archaeology and ethnology are thus added each year to the Museum.

By the vote of the Museum Faculty the income of the Susan D. Warren Fund has been applied to defray the cost of the new cases in the Indian gallery.

The library of the Museum has been increased during the year by the addition of 133 volumes and 104 pamphlets, and now contains 3,138 volumes and 2,908 pamphlets pertaining to anthropology. There have been transferred, during the year, to the general library of the University, 11 volumes and 9 pamphlets.

A new exchange of importance has been added during the year, namely, the publications of the Department of Anthropology of the University of California. These include papers on the ethnology and archaeology of California; the volume on the Tebtunis Papyri; and the reproduction of the post-Columbian Mexican manuscript, entitled "The Book of the Life of the Ancient Mexicans," reproduced in facsimile, with introduction, translation, and commentary by Zelia Nuttall. Part I.

Among the gifts to the Library are volumes of special importance to the work in the Museum and to instructors and students in the Division of Anthropology. A constant friend has sent a number of these volumes, completing series of publications to date. To the Duke of Loubat we are again indebted for copies of his recent publications, including the Codex Magliabecchiano XIII. 3., a reproduction of a post-Columbian Mexican manuscript. In this connection should also be mentioned a large number of the folio plates from Biologia Americana— Archaeology—by A. P. Maudslay, which Mr. Maudslay most kindly sent to the Museum for use in studying the glyphs and for labels in connection with specimens from Central America.

In addition to the numerous specimens obtained from the several Museum explorations and by purchase by means of the Huntington-Frothingham-Wolcott Fund, we are indebted to friends for many valuable specimens. First to be mentioned is Mr. Lewis H. Farlow, of Boston, who has continued to remember the Museum, and is always on the watch for specimens that will fill some gap in our ethnological exhibits. Since the date of the last report he has given to the Museum: Baskets, garments, and household utensils from the Eskimo of Alaska; rare baskets, ceremonial masks, garments, dance rattles and copper daggers from the northwest coast tribes; an unusually fine shaman's hat from the Tlingits of Alaska; basketry and other objects from California, Washington and British Columbia; two rare dance skirts from the Klamath River region; basket-trays, carrying-baskets and beaded objects from the Utes and other inland tribes; a feather ornamented skirt of woven Hibiscus leaf from Samoa; four baskets from Borneo, and two dance masks of the Clallam Indians of Washington.

Another gift of special importance is from the University of Pennsylvania and consists of a fine representative collection of the arts and customs of several tribes of the Island of Borneo, with a large series of photographs showing the native peoples and their habitations, illustrating the home life of several tribes. This collection is of special value as we had only a few isolated objects from the island. The collection is from the remarkably complete series in the Museum of the University of Pennsylvania, and was made by Doctors W. H. Furness, 3d, H. H. Hiller, A. C. Harrison and Charles Hose. The instructive volume on Borneo by Dr. Furness is based on these expeditions.

Other friends have made the following gifts:—

Mr. George Shattuck of Boston, a pair of Eskimo boots from Alaska; Mr. J. Henry Blake of Cambridge, shell necklace, Indians of Acapulco, Mexico; Mrs. F. W. Putnam of Cambridge, two baskets from Colombia, S.A., and a yucca basket from Pueblo San Filipe, New Mexico; Dr. L. C. Jones of Malden, two old carrying-baskets and four other splint baskets, made by Mashpee Indians, Barnstable County, Mass.; Mr. D. I. Bushnell, Jr., stone and shell objects from vicinity of Cahokia Mound, Ill., and a hematite grooved axe from Montgomery County, Mo.; Mr. H. W. Seton-Karr of Wimbledon, England, nine palæoliths from India, and 116 chipped implements from the Fayoom District, Africa; Miss F. H. Mead of Cambridge, basket from Korea; Mr. C. W. Mead of New York, chipped stone implement from Hough's Neck, Mass.; Miss E. R. Fisher of Cambridge, a gourd dish and a needle case from Sierra Leone, Africa; Mr. David Wagstaff (Harvard 1905), chipped arrow points and knives from village site near Pomfret, Conn.; Miss Adela C. Breton of Bath, England, water-color drawings and colored photographs of wall paintings, Temple of the Tigers, Chichen Itza, Yucatan; Mr. Robert J. Hoguet of New York, 137 photographs of buildings (ancient and modern) in Greece, Egypt and Turkey; Professor F. W. Putnam, photographs taken by Dr. Harris Kennedy showing the Indian soapstone quarry on Santa Catalina Island, Cal.; Mr. T. Maler of Tenosique, Mexico, fragments of engraved bowl and large jadeite head from ruins of Yaxchilan, Chiapas, Mexico; also fragments of human skeletons and potsherds from cave at Actun-tsits, Yucatan; Miss Emily Clark, Derby, Conn., splint basket made by Molly Hatchet of the Pautucket tribe of Indians, early in the 19th century; Mr. C. P. Bowditch of Boston, terra cotta heads, shell and jadeite heads and jadeite carvings, and a shell nose ornament from Nochestlan, Oaxaca, Mexico; also an Attu and a Tlingit basket, Alaska; Archaeological Institute of America, incense burners, calabash cups, effigies of quadrupeds, collected by Dr. A. M. Tozzer from the Lacandone Indians, Chiapas, Mexico; Mr. Quentin Bulneo, San Antonio, Mexico, terra cotta vessel in form of monkey, from a mound near San Antonio; Mr. Eladio Pabon Vargas of Parguera, Lajas, Porto Rico (a Porto Rican teacher), nine stone celts, a stone head and portions of pottery vessels from island of Cueva Ayala, near Porto Rico; Mr. Arthur W. Crosby, stone hammer from junction of Columbia Road and Bird Street, Dorchester, Mass.; Mrs. R. F. Brown of Cambridge (through Miss Mead), a Micmac Indian birch-bark box ornamented with porcupine quill work and split spruce roots, over one hundred years old; Dr. W. C. Farabee, stone axe from Maine, pestle from British Columbia, fragment of cloth of buffalo hair from cliff house, Cañon de Chelley; and through him (by purchase), several pipes and implements of the Blackfeet Indians.

Mr. Willoughby has catalogued these many additions to the Museum during the year and has prepared them for exhibition. So far as space could be found in the crowded condition of our cases he has placed them on exhibition. Sometimes it has been necessary to take from the cases objects that should be exhibited, in order to put in those which must be placed under glass for preservation. Notwithstanding these shiftings and rearrangements, a large portion of many instructive collections has had to join others in storage, awaiting the day when the Museum Building shall be completed,— a matter that is becoming more pressing every year. The building if completed would add as much space as we now have, and an arrangement of the collections could be made which would not only greatly increase the importance of the Museum for educational purposes but would also show the many treasures which have accumulated during the thirty-eight years of its existence.

Many labels and location maps have been added to the cases by Mr. Willoughby during the year, and he has placed general labels on the cases. This important work of labelling has been going on gradually for several years, but it is a laborious and time-taking process. It is also an expensive one, owing to the cost of printing the labels. Mr. Willoughby has also added a number of the ethnological photographic groups on the wall spaces of the ethnological galleries.

For the year 1904–05 the Division of Anthropology offers a course in General Anthropology, another on American Archaeology and Ethnology, and four half-courses as follows: Somatology; Prehistoric Archaeology. — European Ethnography; Ethnology of Oceania; and American Indian Languages; by Doctors Dixon and Farabee. Also three Research courses, — American Archaeology and Ethnology, Professor Putnam; Advanced Somatology, Dr. Farabee; American Indian Languages, Dr. Dixon. Over two hundred students are attending these courses, and 28 Radcliffe students are taking two of the courses. By the timely aid of a few friends the Division was saved from the threatened reduction in instruction, which, from lack of funds, the Corporation was forced to make in all divisions of the Faculty of Arts and Sciences for the year 1904–05.

In addition to the gifts of specimens and books, we have for several years received annual gifts of money from a few friends who are aware of the limited resources of the Museum and know of our needs. Their contributions are generally applied to some specific purpose of which mention is made from time to time. From these gifts much of importance is secured to the Museum, either by exploration, by special research, by publication, or by payment, in part, of salaries. The progress of the Museum depends so largely on aid from its friends that we cannot be too grateful for all such gifts.

F. W. PUTNAM,

Peabody Professor and Curator of the Museum.

THE SEMITIC MUSEUM.

To the President of the University: —

Sir, — The additions to the Museum during the past year embrace several small collections of cuneiform tablets, some of which are large and fine specimens from the early Babylonian period. There are also several specimens of stone vases from the same period. From later times is a well preserved inscription of Nebuchadrezzar, of the sixth century B.C., on a barrel-shaped clay tablet, and from Asia Minor several fragments of the tablets commonly known as Cappadocian.

From Palestine has come a collection of fifteen pieces of antique jewelry in gold.

To Dr. William M. Woodworth we are indebted for the gift of 84 copper coins from the Maldive Islands, bearing legends in the Arabic character.

Dr. John Orne has continued his work of studying and describing the Arabic Manuscripts belonging to the Museum.

It is a pleasure to record that the lecture-rooms are this year being used by various other instructors besides those in Semitic. They have also been used for the past three years by the Summer School of Theology, and are admirably suited for that purpose.

On the night following January 12th, 1904, the Museum was broken into, one of the cases pried open, and two of the Arabic manuscripts stolen. Some two weeks later one of these was sent to the Boston *Globe*, with a note signed "Med. Fac." The other manuscript has not yet been returned.

In the last report was mentioned the purchase and arrival of several large models made by Dr. Conrad Schick of Jerusalem. Suitable cases have been prepared and these models are now on exhibition in the Palestinian room and in the hall of the top floor. They are carved in wood, and represent much patient and skilful work. One is of the Tabernacle, one of the Temple of Solomon, and one of the Temple site as it is to-day. The last named, based on measurements and observations, is of great interest and value. From the nature of the case, many of the details in the other models have to be regarded rather as suggestions than as certainties.

The Tabernacle is made after the description given in Exodus 25–27, 36–38, and the visitor who reads these chapters with the model before him will have a much better idea of the Tabernacle than he is ever likely to picture for himself. The Tabernacle proper is covered by a tent. In the Holy Place is the table of showbread, the altar of incense, and the candlestick of seven branches; and in the Holy of Holies the ark, covered by the mercy seat and the cherubim. In the outer court are the laver and the altar of burnt offerings, and the various phases of sacrifice and of worship are also represented.

The model of the Temple of Solomon represents not only the Temple proper, but also the various courts and colonnades which surrounded and protected it, the tower to the north and the palace of Solomon to the south of the Temple platform. Most of these parts may be removed and replaced by others, and then we have the Temple of Herod, as conceived by Dr. Schick. Other parts may be substituted which represent the Temple of Zerubbabel, the Temple of Jupiter erected by Hadrian, and the church built on the site by Justinian.

The third model represents the Temple site as it is to-day, an enclosure almost rectangular, something over a mile in circuit. The boards representing the surface of the enclosure are in sections, and by removing these one can see the levels of the rock and the many cisterns cut into the rock. The enclosure is now almost level, and is bounded by arcades on the north and the west, and by walls on the south and the east. Against the southern wall is the mosque El-Aksa. Near the middle of the enclosure, on a large platform, stands the mosque known as the Dome of the Rock. Just beneath the dome is the great rock on which it is believed that the altar of burnt offerings belonging to Solomon's Temple stood.

Explorations and excavations are now carried on with great zeal in many parts of the Semitic field. The value of such undertakings has been pointed out in several previous reports, and it is highly desirable that the University and the Museum should have part in this work. For a campaign of five years we should have a sum of not less than $50,000. I am glad to say that we have the offer of half this sum, provided the other half can be secured.

In May, 1904, the Museum received an oil portrait of Jacob H. Schiff, Esq., painted by Mr. Louis Loeb in the winter of 1903–04. The painting is the gift of Mr. Schiff's colleagues on the Committee to visit the Semitic Department, Messrs. Isidor Straus, Stephen Salisbury, and George Wigglesworth. The Museum is to be congratulated on having a good portrait of its founder and chief benefactor. With characteristic modesty Mr. Schiff declined to sit for this portrait except on condition that it should not be exhibited during his lifetime.

DAVID G. LYON, *Curator.*

THE FOGG ART MUSEUM.

To the President of the University: —

Sir, — I have the honor to present the following report on the Fogg Art Museum for the year 1903–04.

Our accessions of original works are as follows: Two Italian tempera pictures on panels, a Madonna and Child by the early Venetian master Bartolommeo Vivarini, who flourished during the second half of the fifteenth century, and a Madonna and Child with the Infant St. John, by a follower of the Florentine Master Giuochi, called Pesellino (1367–1446), both deposited as an indefinite loan by our first and most constant benefactor, Mr. Edward W. Forbes, '95; and the following examples of the art of the early English school of water-color painters: Prestwich Church, by Thomas Hearne; Lac de Joux, by J. R. Cozens; Shaugh Bridge, Devon, by William Payne; and Junction of Wye and Severn, by Edward Dayes, all purchased out of the appropriation for Fine Arts.

The Italian panels are both important additions to our series of original works by early Italian painters. The Vivarini has suffered little from repainting. The principal parts appear wholly untouched by the hand of the restorer, and are otherwise uninjured; but the draperies have in some places suffered from abrasion. In this primitive Venetian work the distinctly drawn outline appears, as in Central Italian painting, though there is a degree of solid modelling that is peculiar to the art of Venice. Some survival of Byzantine mannerism is noticeable in the draperies, but nothing of this appears in the heads and hands. In the Pesellino School picture the figures are painted on a gold ground, and the whole panel is in good condition, and is very beautiful in color. It is thoroughly Florentine in spirit, and subtle in expression. These pictures have been hung on a screen in the large gallery, where they are well lighted. The water-color drawings are valuable additions to our small collection of original examples illustrating the early development of the modern English school of landscape painting which culminates in the works of Turner, of whose art we now have six original examples, some of which are among his most characteristic and finished works.

To the Gray Collection of Engravings we have added, by purchase out of the income of the Gray Fund, the following prints: Two etchings by Rembrandt, the Angel leaving Tobit and his family, first state, and the small Lion Hunt; four plates of Turner's Liber Studiorum in the etched state; Blair Athol, Woman at a Tank, Watercress Gatherers, and Stork and Aqueduct. To this collection has also been added a portrait of himself engraved on wood by Gustav Kruell, a gift from Professor C. E. Norton. Prints are sometimes given to the Museum (not to the Gray or Randall collections) and are accessioned separately as belonging to the Museum Collection. For this collection we have received, as a gift from Mr. Francis Bullard, '86, of Boston, the so-called Richmondshire series of 20 plates, after drawings by J. M. W. Turner, engraved in line by J. Pye, T. Higham, W. Radcliffe, J. C. Varrall, H. Le Keux, S. Rawle, S. Middiman, J. Scott, W. R. Smith, C. Heath, J. Le Keux, J. Archer, J. Landseer; and two etchings, Moss Dale Fall, by S. Middiman, and Kirby Lonsdale Churchyard, by C. Heath. We have also added to this collection a portrait of Rousseau, engraved on wood by Gustav Kruell after Ramsay, a gift from Wendell P. Garrison, Esq., '61; a portrait of the late James Bradley Thayer (three impressions in different states), etched by Sidney L. Smith, a gift from the Thayer Club Association; a print of S. A. Schoff's line engraving after The Bathers by the late William Hunt of Boston, and The Reliance, by an unknown engraver, both given by John A. Lowell, Esq., of Boston; and a portrait of Lavinia Bingham, engraved by O. W. Barbolin after Sir Joshua Reynolds, a gift from Harvard College Library.

To the Collection of the Department of Fine Arts, permanently deposited in this Museum, we have added two plates of Turner's Liber Studiorum in the etched state,—Hind Head Hill, and Twickenham. Of these new prints those of Rembrandt and Turner are the most important, and they are all of great value. The Stork and Aqueduct is one of the unpublished plates of the Liber series; it is very rare and very beautiful.

To the collection of photographs, 5,981 additions have been made, including the following groups of subjects: Mediaeval German Architecture, Mediaeval, Renaissance, and Modern Italian Architecture and Sculpture, Ancient painting and Renaissance painting, chiefly Italian. Of these, ten photographs were given by Miss Sarah Norton. The whole number of photographs now in our collection is 36,930, and of these 31,475 are catalogued and arranged in the cases.

To the collection of slides, 82 additions were made, of which one was given by Professor John H. Wright, one by Professor E. Emerton, 13 by Professor A. L. Lowell, and 7 by the Rev. George Hodges.

The following books, purchased with the income of the Searle Fund, have been added to the Museum library: Crowe and Cavalcaselle, Life of Titian, 2 vols.; Baedeker's Handbook for Palestine and Syria, and Handbook for Great Britain, 1 vol. each; Cyril Davenport, Mezzotints, 1 vol.; Bryan's Dictionary of Painters and Engravers, new edition, 3 vols.; Andresen, Deutschen Maler-Radirer, 5 vols.; Andresen-Weigel, Deutsche Peintre-Graveur, 5 vols.; Ris-Paquot, Dictionnaire Encyclopédique des Marques & Monogrammes, 2 vols.; Van der Kellen, Peintre-Graveur Hollandais et Flamand, 1 vol.; A. Whitman, Samuel William Reynolds, 1 vol.; John Evelyn, Sculptura, 1 vol. The Museum library has also received as a gift from Mr. W. C. Lane, '81, the Bowdoin Collection of Plates, and from the Trustees of the Boston Museum of Fine Arts, A Manual of Italian Renaissance Sculpture.

To the library of the Randall Collection, by purchase from the income of the Randall Fund, have been added: Index of Artists represented in the Department of Prints and Drawings in the British Museum, vols. 1 and 2; Henri Delaborde, La Gravure en Italie avant Marc-Antoine; Georges Duplessis, Histoire de la Gravure en Italie, en Espagne, en Allemagne, dans les Pays-Bas, en Angleterre, et en France; and Alfred Whitman, The Masters of Mezzotint.

Work on the subject lists of photographs has been carried forward, and 917 photographs and 62 slides have been catalogued. In the Print Department 7 prints (new accessions) of the Gray Collection, and 1,307 prints of the Randall Collection, have been catalogued. The total number of Randall prints now catalogued is 8,178. Labels have been affixed to 268 prints, and 46 prints and 2,688 photographs have been mounted.

Photographs and prints have been mounted, and other mechanical work has been done in our work-room, for the Semitic Museum, the Publication Office, and for a few outsiders. For this work the Museum has received the sum of $47.09. From the sale of photographs after original works in the Museum we have received $12.40, and from the sale of catalogues we have received $4.20. Our total receipts were thus $63.69.

During the year an exhibition of etchings by the late J. McNeil Whistler was made in the Print-room.

Persons seeking access to photographs in the cases made 1,495 visits, and of these 987 visits were by members of the University. The number of visits to the Print Department, for the study of prints not exposed in the wall cases, was 437, of which 389 were by members of the University.

Photographs were lent 208 times, to the Department of Architecture, to members of the University, and to schools and publishers in Boston and elsewhere. Slides were lent 114 times, to the Department of Architecture, to Radcliffe College, and to schools.

It has been our policy thus far to make the Museum collections as widely useful as possible to the community at large; and, in accordance with this policy, we have lent slides and photographs a good deal to outsiders, as well as to members of the University. But it has been found of late that requests for the use of slides have so increased as to materially embarrass our own work of teaching. The Museum Committee have therefore voted that it is inexpedient to continue the lending of slides to outsiders save in exceptional cases at the discretion of the Director. Our collection of photographs is so much larger than our collection of slides that we hope to be able to continue lending them unless the demand becomes so considerable as to interfere with our own work.

With our very insufficient endowment, and in the present straitened condition of the Corporation's resources, we have been unable this year to provide the additional cases that are needed for the storage of our new accessions of photographs. We are therefore obliged, as these new photographs are mounted and catalogued, to pile them up where they must remain inaccessible until new cases can be obtained.

Our most pressing needs now are: (1) For a properly-lighted addition to our building, for the display of our important original works of art, of which I spoke in my last report, stating that plans for two wings have been prepared, that the estimated cost of erecting these wings is $50,000 and $40,000 respectively. Our valuable and growing collection of early Italian paintings cannot be seen to advantage until at least one of these wings is built. (2) For additional endowment for the larger expenses of administration and for the purchase of desirable works of art. At present so large a part of the incomes from the Gray and Randall Funds has to be devoted to expenses of administration that the balance available for the purchase of prints is almost insignificant. Opportunities to acquire rare and important prints occur from time to time, but we are unable, for the most part, to take advantage of such opportunities. We ought, also, to have some means of purchasing original works in Sculpture and Painting in order to develop our working museum to its fullest usefulness. (3) For more adequate provision for small incidental expenses.

CHARLES H. MOORE, *Director.*

THE GERMANIC MUSEUM.

To the President of the University: —

Sir, — The academic year 1903–04 began for the Germanic Museum with an event which marks the completion of the first, preparatory stage in its history — the formal opening of the present collection and the dedication of the gifts presented by the German Emperor. The exercises were held on November 10, the anniversary of Schiller's birth, and consisted of two separate parts. In the afternoon addresses were delivered in the New Lecture Hall by Baron von dem Bussche-Haddenhausen, the special representative of the Emperor, President Eliot, Hon. Carl Schurz, Mr. Edward Robinson, and Professors von Jagemann, James, and Francke. In the evening the Irving Place Theatre Company of New York, by the courtesy of its director, Mr. Heinrich Conried, presented in Sanders Theatre three short plays, illustrating various phases of the German drama from the sixteenth century to the present: Hans Sachs's "Der fahrende Schüler im Paradies"; Goethe's "Die Geschwister"; Fulda's "Unter Vier Augen."

Since the Emperor's donation is now a matter of public record, it seems fitting to mention here briefly some of the agencies through which it came about. The first semi-official connection between the Museum and the German Government was established at a reception given in March, 1899, by Professor Münsterberg to the then German Ambassador at Washington, Dr. von Holleben, in the course of which the Ambassador, in reply to speeches made by various members of the German Department and the Board of Visitors to the same, expressed the keen sympathy entertained by his Government for the Museum undertaking. Early in 1900, the Curator, at that time Chairman of the Department of Germanic Languages and Literatures, engaged in a correspondence with Professor Herman Grimm, of Berlin University, suggesting that efforts be made by him to induce the Prussian Government to give to the Germanic Museum certain selected plaster-casts of mediaeval German sculptures contained in Prussian museums. Professor Grimm, generously embracing this idea, succeeded in interesting Count von Bülow, the Imperial Chancellor, in the project. As a consequence, the Curator received at the beginning of 1901, through the German

Embassy at Washington, an invitation from the German Government to make formal application for such a gift and to specify the objects which would be most welcome. With this request he complied, adding that if there were a possibility of interesting the Emperor himself so as to have whatever gift might be made take the form of a donation from him, the value of such an expression of international friendliness would thereby be greatly increased. He did not divine then that the Emperor, of his own volition, in the selection of objects to be presented would go far beyond what at that time it seemed reasonable to hope.

Apart from the dedication of the Emperor's gifts, the formal opening of the Museum was made memorable through the presentation of two important documents: an address from a committee at Berlin of leading German scholars and public men — among them such names as Theodor Mommsen, Adolf Harnack, Friedrich Paulsen, Althoff, Richard Schöne, Julius Lessing, Arthur Gwinner — announcing a gift of fifty-five electrotype reproductions of German metal work from the twelfth to the eighteenth century; and a letter from Professor A. C. Coolidge, announcing his intention to give, in memory of the visit of Prince Henry of Prussia to Harvard University, a collection of ten thousand books dealing with German history, to be called the Hohenzollern Collection.

Since Professor Coolidge's gift is to belong, by the intention of the donor, not to the Germanic Museum, but to the University Library, this report is not the place to dwell on its significance. It is clear, however, that every increase in the resources of the Library for the study of German history is a direct gain for the Germanic Museum also; for the aim of the Museum is essentially historical, and its ultimate purpose of presenting a complete, though succinct, conspectus of the development of the Germanic race cannot be fulfilled without the aid of books. It is gratifying that through the announcement of this gift in connection with the formal opening of the Museum the unity of all historical studies — to whatever field of national activity they may belong — received public recognition.

The gift of the Berlin Committee, which represents a money value of over fifty thousand marks, arrived in December and was on exhibition in the Museum during the winter months. In April, at the request of the Imperial German Commissioner at the Louisiana Purchase Exposition, it was sent to St. Louis, to form, for the remainder of the year, part of the German industrial exhibit at the World's Fair. This collection, made possible by individual contributions throughout Germany, and representing German handicraft at its best, is a most worthy popular counterpart to the Emperor's donation, and a most welcome addition to the treasures of the Museum.

The oldest pieces of the collection are types of Romanesque communion chalices and patens of the twelfth century and the early part of the thirteenth. These vessels are equally remarkable for the simplicity and dignity of their outline and for the grace and richness of their ornamentation. The forms of the chalices are compact, yet fully articulated; the round knob which divides in them the cup proper from the shaft and foot gives an easy purchase for handling it; the decorations, both arabesques and figures in niello work, serve to accentuate and enrich the general contour, without in the least forcing themselves into the foreground. One gains the impression that the artists of these ecclesiastical vessels could not help pouring out all their religious feeling and thought into their work, and yet knew very well how to restrain themselves in giving form to it.

Secular handicraft of the fifteenth and sixteenth centuries is represented by a large number of Gothic and Renaissance goblets, loving cups, finger bowls and dessert plates, belonging to cities, guilds, princes, or distinguished individuals. The forms of these Gothic and Renaissance vessels, particularly the goblets, are much more ornate and fantastic than those of the earlier work. Compared with the round, concentric lines of the Romanesque chalices we see here a tendency toward elongation and toward manifold curving and branching out. What is hereby lost in unity and simplicity is gained in variety, picturesqueness, and stateliness. Particularly effective in the Gothic specimens are the embossed bulbs, partly round, partly oval, which surround both the body and the cover of the goblets, reflecting the light at different angles and producing a fanciful play of color about them — an effect which is still heightened by the free use of enamel on the flat surfaces.

Of particular historical interest among these vessels are: a goblet given in 1462 by King Corvinus of Hungary to the City Council of Vienna; a loving cup given in 1525 by the University of Wittenberg as a wedding present to Martin Luther; a goblet made for Emperor Maximilian II by the famous Nuremberg silversmith, Wenzel Jamnitzer (1508–1588); and, above all, selected pieces from the magnificent table service of the old Hanse town of Lüneburg. In the year 1600 this table service still consisted of some three hundred pieces. In consequence, however, of the ravages of the Thirty Years' War and the destruction of civic independence in the seventeenth and eighteenth centuries, it dwindled down in course of time to thirty-seven, which are now in the possession of the Museum of Arts and Crafts at Berlin. Every one of the pieces of this Lüneburg treasure was originally a gift made by a citizen to the town, in commemoration of some event of private or public importance. They are, therefore, as a whole, a striking instance of the spirit of civic devotion and pride which made possible the great era of German burgherdom in the fifteenth and sixteenth centuries.

The seventeenth and eighteenth centuries are represented by nearly a dozen specimens of the Baroque and Rococo style. Civic art has now been superseded by princely art. Splendor and elegance have taken the place of solidity and firmness. That, however, even in the courtly art of the eighteenth century there was not a little of boldness of invention and delicacy of execution left is shown, for instance, by the exquisite little Nautilus goblet, the work of a Berlin master of the time of Andreas Schlüter.

For the bringing together of this remarkable exhibit of German metal work from a large number of museums and private collections in Germany, Austria, France, and England, we are indebted to Professor Dr. Julius Lessing, Director of the Royal Museum of Arts and Crafts in Berlin, who in a most unselfish and patriotic spirit took upon himself the arduous task of overseeing and directing this work, and to whom we owe, in addition, a most instructive, carefully illustrated catalogue of the whole collection. May he and the other members of the Berlin Committee feel rewarded by the assurance that they have succeeded in placing before American students a striking and unique illustration of the development of German industrial art through six centuries, and in giving, besides, incontestable evidence of the high state of efficiency reached by the electrotype technique of reproduction in contemporary Germany.

Other gifts of the year are as follows: From Mr. H. W. Putnam, of Boston, eight casts of reliefs from the Marcus Aurelius Column at Rome, representing episodes from the Marcomanni War, such as the destruction of Germanic villages, the deportation of Germanic captives, and similar scenes containing evidence of early Germanic habitation and costume. From Mr. Arthur P. Schmidt, of Boston, a cast of the tomb of Duke Henry the Lion and his wife at Braunschweig, one of the finest sepulchral monuments of the thirteenth century. From the United German Singing Societies, of Boston, a plaster model, by Herr Bodo Ebhardt, of Berlin, of the Hohkönigsburg in Alsace, one of the most important mediaeval castles of Germany, which is now being restored by the German Emperor. From Miss Mary F. Bartlett, of Boston, four engravings after Dürer, the four Apostles and Charlemagne by Albert Reindel, Dürer's own portrait by J. L. Raab. The following money contributions were received: $100 from Mr. Charles B. Rogers, of Utica, N. Y.; $25 from the German Teachers Club, of Boston; $4 from Professor Max F. Blau, of Princeton University; $25 from the German Department of Mount Holyoke College. The present balance at the disposal of the Germanic Museum Association amounts to $475. The Museum was open to the public throughout the year on two week days and — owing to a generous provision made by an anonymous donor — on Sunday afternoons. It was visited during that time by 21,046 persons, a very gratifying sign of widespread public interest.

In looking back upon the last three years — that is, the time since the first purchases for the Museum were made — we have every reason to feel encouraged by what has been accomplished during this period; for an institution has been established which even in its present incipient stage seems bound to exert a strong and lasting influence upon the study of Germanic civilization in American universities. But satisfaction at what has been achieved thus far — however well founded such satisfaction may be — should not blind us to the fact that the main work in building up a Germanic Museum worthy of its name is still to be done.

The present Museum building, obviously a very inadequate shelter for precious gifts made by a friendly government and a kindred people, is even now so crowded with objects that it offers no room for the expansion of the collections. The need of a new building is therefore immediate and imperative. This new building, apart from affording a worthy and safe setting for the monuments already in our possession, must provide opportunity for enlarging the scope of the Museum so as to make it a truly historical survey of the development of Germanic civilization. It must contain, therefore, separate rooms for models of the habitations of the lake-dwellers in Switzerland; for specimens of Germanic burial mounds, weapons, arms, utensils, ornaments from the time of the Roman invasion; for reproductions of Frankish, Anglo-Saxon, Norse antiquities; for models of typical farm-houses of the various Germanic tribes, of mediaeval castles and guild halls; for reproductions of the interiors of German burgher-houses of the Renaissance, and so on.

The emphasis, however, of the Museum will, I take it, always lie where it lies now, in a representation of German monumental and architectural sculpture. A suitable hall of sculpture will therefore be the first and most important requirement of the new building; indeed it would be perfectly proper to make a beginning with such a hall alone. This hall of sculpture should be divided into at least three large rooms of about 36′ × 100′ each, devoted, respectively, to the Romanesque, Gothic, and Renaissance periods. Three such exhibition rooms would give an opportunity of enlarging our present collection of casts in such a way as to make it a reasonably complete view of the best of German monumental art from the Bernward Column down to Rauch's Königin Luise and Klinger's Beethoven. By means of galleries and alcoves it would be possible to include in these rooms typical work of the industrial arts also, such as the beautiful specimens of ancient silver and gold ware described above, while the background of the whole would be formed by a still more comprehensive collection of architectural photographs than we have on the walls of the present building. The ready response and generous help which the propaganda for our undertaking has received in Germany thus far make it seem probable that, if we succeed in providing for the adequate housing of monumental casts, there will be no lack of further aid from German governments, museums, and private individuals in providing the casts themselves. The friends of Harvard University, then, have here an opportunity of coöperating with the German people in leading to its consummation an institution which is of equal importance to the student, the artist, and the lover of the beautiful, and which, when completed, cannot fail to mark an epoch in the cultivation of the humanities in America.

KUNO FRANCKE, *Curator.*

RADCLIFFE COLLEGE.

To the President of the University: —

Sir, — As Dean of Radcliffe College, I have the honor to submit my report for the academic year 1903–04.

The number of students in actual attendance during the year was 458, as against 429 during the preceding year.

Graduate Students	68
Seniors	62
Juniors	72
Sophomores	73
Freshmen	81
Special Students	102
Total	458

At Commencement in June, 1904, ninety-six students, six of whom had completed their residence in an earlier year, received the degree of Bachelor of Arts. Twenty-eight students, who had not been registered as Seniors, received the degree. Of the ninety-six successful candidates, two received the degree *summa cum laude;* fourteen received it *magna cum laude;* thirty-seven *cum laude.*

Twenty-one students received the degree of Master of Arts. Twelve of the twenty-one had taken their first degree at Radcliffe, the others represented the following colleges: Bates College, University of Cincinnati, University of Kansas, McGill University, Mt. Holyoke College, Smith College, Syracuse University, Wesleyan University, College for Women of Western Reserve University.

Examinations for admission were held in June, 1904, in Cambridge, Andover, Atlanta (Ga.), Brookline, Cincinnati (Ohio), Exeter (N. H.), Fall River, Groton, Lynn, Milton, New Bedford, Omaha (Neb.), Philadelphia (Pa.), Pittsburgh (Pa.), Portland (Me.), Quincy, South Byfield, Springfield, St. Paul (Minn.), Washington (Conn.), Worcester, and Youngstown (Ohio). They were also held in September in Cambridge. Two hundred and ninety-five candidates presented themselves for examination, one of whom did not complete her examination. Fifteen were candidates for admission as Special Students; forty-seven candidates took part of the examination or worked off admission conditions; one hundred and twenty-nine took the Preliminary Examinations, and one hundred and two the Final Examinations.

The results of the Final Examinations are given in the following table: —

	Admitted.	Admitted "Clear."	Rejected.
June	83	41	5
September	13		1
Total	96		6
Total rejected	6		
	102		

Ninety-six candidates were admitted as Freshmen in 1904, as against one hundred and sixteen in 1903.

Sixty-eight Graduate Students registered during the year, thirty-nine of whom were from other colleges. Thirty-three students were admitted to sixteen full courses, and seventeen students to seven half-courses of the "Courses primarily for Graduates in Harvard University open to competent Students of Radcliffe College."

The members of the Academic Board for 1903–04 were: Professor Byerly (Chairman), and Professors Minton Warren, E. L. Mark, J. H. Wright, S. M. Macvane, E. H. Hall, H. C. G. von Jagemann, C. H. Grandgent, G. L. Kittredge.

The Caroline I. Wilby Prize, which is given "for the best original work in any department," has been withheld since 1900, as no thesis or original work has been of sufficient importance to deserve it. In June, 1904, two papers were deemed worthy of the distinction, and two prizes were awarded, one to Belva Mary Herron, B. L. 1899 (University of Michigan), a Graduate Student in Radcliffe, for a paper on the Progress of Labor Organization among Women; and one to Caroline Strong, A. B. 1903, a Graduate Student in Radcliffe, for a thesis on the Tail-Rhyme Strophe in English Poetry.

The South End House Fellowship, established by Miss Rogers in 1903 for a period of two years, under the conditions stated in the last Report, has been awarded for the second time to Charlotte Henrietta Price, A. B. (Radcliffe) 1901. Miss Price is investigating a deeply interesting problem in city life in Boston: she proves, if proof were needed, the value of a trained intelligence in dealing with social problems, and the special fitness of a woman for the profession of social worker. Year by year this distinctly modern profession grows more and more attractive to the graduates of women's colleges; and we must rejoice because a new career is open to women, and because the women, who add to their natural endowment of tact and quick sympathy the poise and balance given by long mental training, can do much to solve many of the vexed and vexing questions of the time. One Radcliffe graduate has been for the past year engaged in an interesting experiment in a Company's School for the children of miners; this year a second Radcliffe graduate has joined her. As workers in organized charities and in college settlements, as probation-officers, as teachers in public schools, especially in grammar schools, the place of all others to serve the parents through the children, Radcliffe graduates have done and are doing honorable social service. Some of them are in the distant States of the Union and in the Insular Dependencies, and Radcliffe owes to them the extension of her influence and her prestige. With this extension comes the immediate need of a second hall of residence, built to correspond outwardly to the first; but the dignity and spaciousness of Bertram Hall render superfluous any provision for large social gatherings. The second hall might, therefore, accommodate a greater number of students, and thereby, perhaps, reduce the expense of living. It is the hope of the Dean that this second hall may be "primarily for graduates," who often like a different life from that of the younger undergraduates, and who may never again have the opportunity to spend a year in advanced study among congenial companions. The life of Bertram Hall has been increasingly delightful and free from drawbacks. The Hall continues to be the centre of the social life of the College, and is as dear to the residents of to-day as to the first comers.

An important step in the development of Radcliffe has been taken during the past year by the formation of the Radcliffe College Auxiliary, a body of men and women of character and influence, who stand ready to help the College in divers ways, not the least of which is the prestige given by their support. Mrs. Richard C. Cabot, to whom the plan of the Auxiliary is due, was elected chairman. The opportunity for service came at once. The Greenleaf Estate, on Brattle Street, directly opposite the College, was offered to Radcliffe for $80,000, — a much smaller sum than the assessors' valuation. This estate adjoins another piece of land which will later become the property of the College; and it is the only estate remaining undivided in that vicinity. Fully convinced that the possession of this land is essential to the best development of the College, a committee of the Auxiliary have undertaken to raise the money. They have already secured promises of nearly $56,000, and it would be almost a calamity — certainly an undeserved one — if, for the lack of $20,000, Radcliffe were compelled to forego so great an opportunity.

One great loss the year has brought us. Sarah Wyman Whitman, a member of the Council of Radcliffe College, died on the twenty-fourth of June, 1904. Mrs. Whitman became a member of the Executive Committee of the Society for the Collegiate Instruction of Women in 1886, and from that time until the day of her death her devotion to the cause never knew a moment's chill. Her alert and high intelligence, her remarkable quickness of grasp and perception, her extraordinary power of work, her sense of beauty and fitness, made her a leader in many fields; in none was she of more vital importance than in Radcliffe, and none was nearer her heart. As in life her time and thought were lavishly spent on its wants and its interests, so in death she has made provision for its great present need, — by an unrestricted bequest of $100,000, — and for the permanent need of every college, — by the foundation of two scholarships, to be known by the name of two of her friends. What she was, and what she did, will never be forgotten; her great artistic gift has built her own memorial in the Gymnasium, in Bertram Hall, in Agassiz House, which would not have been what they are without her taste and skill. Other memorials have been provided that the College of the distant future may know her name and recognize her power. Her last work, a window made for the St. Louis Exposition, has been purchased by her friends, and will be placed in Agassiz House. A Madonna and Child, ascribed to Ghirlandajo, from four of her friends;* and an ideal bust, Death the Deliverer, the work of the late Richard Greenough, from Mrs. Barrett Wendell, have been given as memorials of her. A portrait by Alexander of Mrs. Whitman, painted for Radcliffe, has been presented to the College by Mrs. Hartman Kuhn. Elizabeth Agassiz House, in which these memorials will find their fittest place, is rapidly nearing completion, and will be finished in ample time for the Commencement of 1905.

AGNES IRWIN, *Dean.*

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* Mr. and Mrs. Henry L. Higginson, and Mr. and Mrs. Henry Parkman.

APPENDIX.

DEATH.

[*During the year ending August 31, 1904.*]

Samuel Hoar, Fellow of Harvard College. April 11, 1904.

RESIGNATIONS.

[*To take effect September 1, 1904, unless otherwise stated.*]

Seabury Wells Allen, Assistant in Anatomy, to take effect September 1, 1903. December 28, 1903.

Fred Washington Atkinson, Lecturer on Educational Organizations. June 6, 1904.

William George Barr, Assistant in Government. September 27, 1904.

Albert Wilhelm Boesche, Instructor in German. May 9, 1904.

Haven Darling Brackett, Member of Board of Examination Proctors. January 25, 1904.

Walter Benjamin Briggs, Superintendent of the Reading Room of the College Library. June 6, 1904.

Richard Cobb, Instructor in English, and Chairman of the Appointment Committee, to take effect July 1, 1904. September 27, 1904.

Paul Revere Curtis, Assistant in Ore-dressing and Assaying, to take effect March 31, 1904. April 11, 1904.

Harold Garfield Dillingham, Member of the Committee on the Regulation of Athletic Sports. October 19, 1903.

Thomas Fillebrown, Professor of Operative Dentistry and Oral Surgery. February 29, 1904.

Jefferson Butler Fletcher, Assistant Professor of Comparative Literature. March 14, 1904.

Charles Gilman, Instructor in Mathematics and Surveying. September 27, 1904.

John Orne Green, Clinical Professor of Otology. June 6, 1904.

Roger Castle Griffin, Assistant in Chemistry. May 9, 1904.

Adams Sherman Hill, Boylston Professor of Rhetoric and Oratory. June 6, 1904.

William Barker Hills, Associate Professor of Chemistry. March 7, 1904.

Thomas Augustus Jaggar, Jr., Regent. June 28, 1904.

Edward Binney Lane, Clinical Instructor in Mental Diseases, to take effect December 26, 1903. January 11, 1904.

Abbott Lawrence Lowell, Member of Administrative Board of Graduate School for 1903–04. October 26, 1903.

Gilbert Simrall Meem, Jr., Proctor. November 9, 1903.

Hugo Richard Meyer, Lecturer on Economics, to take effect February 15, 1904. January 25, 1904.

Dickinson Sergeant Miller, Instructor in Philosophy. March 28, 1904.

Edmund Thornton Miller, Austin Teaching Fellow in Economics, to take effect January 1, 1904. January 11, 1904.

Frederic William Morrison, Assistant in French and Spanish. September 27, 1904.

William Allan Neilson, Instructor in English. January 11, 1904.

George Frederic Newton, Instructor in Designing and Drawing. June 6, 1904.

Amon Benton Plowman, Assistant in Botany. September 27, 1904.

William Herbert Prescott, Assistant in Clinical Medicine, to take effect January 18, 1904. January 25, 1904.

Adolph Rambeau, Lecturer in French. September 27, 1904.

William Richard Ransom, Instructor in Mathematics, to take effect February 13, 1904. March 14, 1904.

Frederick William Reynolds, Instructor in English. June 20, 1904.

Philip Sidney Smith, Member of Board of Examination Proctors, to take effect immediately. January 11, 1904.

James Waddell Tupper, Instructor in English. September 27, 1904.

John Albrecht Walz, Instructor in German. June 28, 1904.

Barrett Wendell, Jr., Proctor, to take effect immediately. February 29, 1904.

Evan Parker Wentworth, Instructor in Operative Dentistry. September 27, 1904.

George Shattuck Whiteside, Assistant in Anatomy. September 27, 1904.

Holden Pierce Williams, Assistant in College Office, to take effect March 1, 1904. March 28, 1904.

Robert Newton Woodworth, Assistant in Ore-dressing and Assaying. June 28, 1904.

APPOINTMENTS.

FACULTY OF ARTS AND SCIENCES.

[*Without limit of time, or for more than one year.*]

Maxime Bôcher, Professor of Mathematics from September 1, 1904. March 28, 1904.

Charles Leonard Bouton, Assistant Professor of Mathematics for five years from September 1, 1904. March 28, 1904.

Jeffrey Richardson Brackett, Instructor in Charity, Public Aid and Correction for three years from July 1, 1904. February 8, 1904.

LeBaron Russell Briggs, Boylston Professor of Rhetoric and Oratory from September 1, 1904. June 6, 1904.

George Henry Chase, Instructor in Classical Archaeology from September 1, 1904. March 28, 1904.

Archibald Cary Coolidge, Assistant Professor of History for five years from September 1, 1904. March 28, 1904.

Merritt Lyndon Fernald, Instructor in Botany and Assistant at the Gray Herbarium from September 1, 1903. November 23, 1903.

Richard Thornton Fisher, Instructor in Forestry from September 1, 1904. June 28, 1904.

Charles Burton Gulick, Assistant Professor of Greek for five years from September 1, 1904. February 29, 1904.

Adams Sherman Hill, Boylston Professor of Rhetoric and Oratory, *Emeritus*. June 6, 1904.

Edwin Bissell Holt, Instructor in Psychology from September 1, 1904. June 20, 1904.

Edward Vermilye Huntington, Instructor in Mathematics from September 1, 1904. February 29, 1904.

Robert Tracy Jackson, Assistant Professor of Palaeontology for five years from September 1, 1904. March 28, 1904.

Frank Lowell Kennedy, Assistant Professor of Drawing and Machine Design for five years from September 1, 1904. February 29, 1904.

Philippe Belknap Marcou, Assistant Professor of Romance Languages for five years from September 1, 1904. March 28, 1904.

Harry Wheeler Morse, Instructor in Physics from September 1, 1904. March 28, 1904

William Bennett Munro, Instructor in Government from September 1, 1904. January 11, 1904.

George Howard Parker, Assistant Professor of Zoölogy for five years from September 1, 1904. March 28, 1904.

Edward Dyer Peters, Professor of Metallurgy from September 1, 1904. March 28, 1904.

Murray Anthony Potter, Instructor in Romance Languages from September 1, 1904. March 28, 1904.

George Sharp Raymer, Assistant Professor of Mining for five years from September 1, 1904. April 11, 1904.

Arthur Asahel Shurtleff, Instructor in Landscape Architecture from September 1, 1903.' October 26, 1903.

Henry Lloyd Smyth, Director of the Mining and Metallurgical Laboratories. February 29, 1904.

Oliver Mitchell Wentworth Sprague, Assistant Professor of Economics for five years from September 1, 1904. May 16, 1904.

Frederic Jesup Stimson, Professor of Comparative Legislation from September 1, 1904. January 11, 1904.

Herbert Langford Warren, Nelson Robinson Jr. Professor of Architecture from September 1, 1903. November 9, 1903.

Irvah Lester Winter, Assistant Professor of Elocution for five years from September 1, 1903. November 23, 1903.

James Haughton Woods, Instructor in Philosophy from September 1, 1904. February 29, 1904.

[*For 1903–04.*]

Edward Larrabee Adams, Assistant in French and Spanish. October 19, 1903.

Louis Anton Ernst Ahlers, Assistant in German. October 19, 1903.

Warren Seymour Archibald, Assistant in English. November 23, 1903.

Walter Conrad Arensberg, Assistant in English. November 23, 1903.

William George Barr, Assistant in Government. October 19, 1903.

Francis Vinal Barstow, Assistant in Chemistry. October 19, 1903.

Middleton Goldsmith Beaman, Assistant in Government. October 19, 1903.

James Mackintosh Bell, Assistant in Geology for the second half-year. March 28, 1904.

Winthrop Bellamy, Assistant in Chemistry. October 19, 1903.

HIRAM BINGHAM, JR., Assistant in History. October 19, 1903.

STUART BLAIKIE, Assistant in Government. October 19, 1903.

LEO LEGAY BURLEY, Assistant in History. October 19, 1903.

HENRY AVERY CARLTON, Assistant in Chemistry. November 9, 1903.

LATHAM CLARKE, Assistant in Chemistry. October 19, 1903.

STUART DAGGETT, Austin Teaching Fellow in Economics from January 1, 1904, for the remainder of the current academic year. January 11, 1904.

COLBY DILL, Assistant in Chemistry. October 19, 1903.

ALFRED EDWARD ELLS, Assistant in Elocution. October 26, 1903.

GEORGE SHANNON FORBES, Assistant in Chemistry. November 9, 1903.

HARRY LOUIS FREVERT, Assistant in Chemistry. October 19, 1903.

EDMUND CARL FROEHLICH, Instructor in Mathematics. November 23, 1903.

JAMES ANDREW GIBSON, Assistant in Chemistry. October 19, 1903.

JESSE MORE GREENMAN, Assistant in the Gray Herbarium. December 28, 1903.

ROGER CASTLE GRIFFIN, Assistant in Chemistry. October 19, 1903.

FRITZ HAGENS, Assistant in German. October 19, 1903.

ANGELO HALL, Instructor in Mathematics for the second half-year. February 29, 1904.

HENRY HARDENBERGH, Assistant in Chemistry. November 9, 1903.

HENRY WYMAN HOLMES, Assistant in Education. November 9, 1903.

RICHARD FAY JACKSON, Assistant in Chemistry. October 19, 1903.

HENRY CRAIG JONES, Assistant in Government. October 19, 1903.

BURRITT SAMUEL LACY, Assistant in Chemistry. October 19, 1903.

ROLLO LUVERNE LYMAN, Instructor in Elocution. October 26, 1903.

ROBERT DAWSON MACLAURIN, Assistant in Chemistry from May 1, 1904, for the remainder of the current academic year. May 9, 1904.

EDWARD RUSSELL MARKHAM, Assistant in Shop-work. November 23, 1903.

EDMUND THORNTON MILLER, Austin Teaching Fellow in Economics. November 23, 1903.

FREDERIC WILLIAM MORRISON, Assistant in French and Spanish. October 19, 1903.

ROBERT EZRA PARK, Assistant in Philosophy. November 9, 1903.

EDGAR OSCAR PARKER, Assistant in Drawing. December 28, 1903.

EDWARD DYER PETERS, Lecturer on Metallurgy for second half-year. December 14, 1903.

WILLIAM RICHARD RANSOM, Instructor in Mathematics. November 23, 1903.

RALPH WEBSTER RICHARDS, Assistant in Geology. November 23, 1903.

LEONARD HASTINGS SCHOFF, Assistant in Chemistry. October 19, 1903.

AUGUSTUS HUNT SHEARER, Assistant in History for the second half-year. February 29, 1904.

WALTER JAMES SHEPARD, Austin Teaching Fellow in History. October 19, 1903.

HENRY ROBINSON SHIPMAN, Assistant in History. October 19, 1903.

FRANCIS WOLSON SNOW, Assistant in French and Italian. October 19, 1903.

CARL WILLIAM THOMPSON, Assistant in Elocution. November 23, 1903.

RAYNOR GREENLEAF WELLINGTON, Assistant in History. October 19, 1903.

PLUMER WHEELER, Assistant in Chemistry. October 19, 1903.

ARTHUR DICKINSON WYMAN, Assistant in Chemistry. October 19, 1903.

[*For the Calendar Year 1904.*]

CYRUS GUERNSEY PRINGLE, Botanical Collector. November 23, 1903.

[*For 1904–05.*]

Frederick Arthur Alden, Assistant in Mechanical Drawing. May 16, 1904.

George Isaac Aldrich, Lecturer on School Administration. June 6, 1904.

Oakes Ames, Instructor in Botany. March 28, 1904.

Gustavus Adolphus Anderegg, Instructor in Electrical Engineering. March 14, 1904.

Fred Washington Atkinson, Lecturer on Educational Organizations. March 28, 1904.

Charles Hamilton Ayres, Instructor in Physics. June 20, 1904.

Harry Morgan Ayres, Assistant in English. June 20, 1904.

Newton Samuel Bacon, Assistant in Hygiene. March 28, 1904.

William George Barr, Assistant in Government. March 28, 1904.

James Mackintosh Bell, Austin Teaching Fellow in Mining and Metallurgy. April 11, 1904.

Hiram Bingham, Jr., Assistant in History. April 11, 1904.

Otis Fisher Black, Assistant in the Chemical Laboratory. March 28, 1904.

Albert Wilhelm Boesche, Instructor in German. March 28, 1904.

Herbert Melville Boylston, Assistant in Metallurgical Chemistry. May 9, 1904.

Henry Cook Boynton, Instructor in Metallurgy and Metallography. March 28, 1904.

Fletcher Briggs, Austin Teaching Fellow in German. May 9, 1904.

Carleton Fairchild Brown, Instructor in English. May 9, 1904.

Frederic Willis Brown, Austin Teaching Fellow in Romance Languages. March 28, 1904.

Harold Chapman Brown, Assistant in Philosophy. June 6, 1904.

Alphonse Brun, Instructor in French. March 28, 1904.

Leslie Lyle Campbell, Assistant in Physics. June 6, 1904.

Philip Greenleaf Carleton, Instructor in English. May 9, 1904.

Edward Edgecombe Carter, Instructor in Forestry. June 20, 1904.

William Richard Castle, Jr., Assistant in English. May 9, 1904.

Arthur Houston Chivers, Austin Teaching Fellow in Botany. March 28, 1904.

Lyman Kenneth Clark, Assistant in Government. March 28, 1904.

John Felt Cole, Instructor in Astronomy. April 25, 1904.

Leon Jacob Cole, Austin Teaching Fellow in Zoölogy. June 6, 1904.

William Morse Cole, Instructor in the Principles of Accounting. March 28, 1904.

William Arnold Colwell, Instructor in German. May 9, 1904.

Frederick Shepherd Converse, Instructor in Music. June 6, 1904.

Vanderveer Custis, Assistant in Economics. June 20, 1904.

Stuart Daggett, Assistant in Economics. June 20, 1904.

Horatio Willis Dresser, Assistant in Philosophy. June 6, 1904.

William Curtis Farabee, Instructor in Anthropology. April 25, 1904.

James Alfred Field, Austin Teaching Fellow in Economics. June 20, 1904.

George Shannon Forbes, Austin Teaching Fellow in Physical Chemistry. April 25, 1904.

Harry Louis Frevert, Assistant in Chemistry. April 25, 1904.

Arthur Bowes Frizell, Instructor in Mathematics. March 28, 1904.

Charles Edmund Fryer, Assistant in History. April 11, 1904.

Benjamin Apthorp Gould Fuller, Assistant in Philosophy. June 6, 1904.

Harold DeWolf Fuller, Instructor in English. May 9, 1904.

Andrew Garbutt, Instructor in Modelling. April 25, 1904.

James Augustus George, Assistant in Government. March 28, 1904.

Jesse More Greenman, Instructor in Botany. March 28, 1904.

Roger Castle Griffin, Assistant in Chemistry. May 9, 1904.

Fritz Hagens, Instructor in German. May 9, 1904.

Thomas Hall, Jr., Instructor in English. March 28, 1904.

Lyman Sawin Hapgood, Assistant in Hygiene. March 28, 1904.

Henry Harrison Haynes, Instructor in Semitic Languages. May 9, 1904.

Arthur Stedman Hills, Instructor in Public Speaking. May 9, 1904.

Arthur Day Howard, Austin Teaching in Zoölogy. June 6, 1904.

Silas Wilder Howland, Assistant in Economics. June 20, 1904.

Percy Adams Hutchison, Assistant in Philosophy. June 6, 1904.

John Perham Hylan, Assistant in Philosophy. June 6, 1904.

John George Jack, Instructor in Forestry. June 28, 1904.

Robert Matteson Johnston, Lecturer on Modern Italian History. December 14, 1903.

Henry Craig Jones, Assistant in Government. March 28, 1904.

Harrie Stuart Vedder Jones, Assistant in English. June 20, 1904.

John Frank Langmaid, Assistant in Chemistry. March 28, 1904.

Frederick William Charles Lieder, Austin Teaching Fellow in German. May 9, 1904.

Joseph Abraham Long, Austin Teaching Fellow in Botany. April 25, 1904.

Rollo LuVerne Lyman, Instructor in English, March 28, 1904; in Public Speaking, May 9, 1904.

Albert Morton Lythgoe, Instructor in Egyptology. June 6, 1904.

George Rogers Mansfield, Austin Teaching Fellow in Geology. June 6, 1904.

Selden Osgood Martin, Assistant in Economics. June 20, 1904.

Roger Bigelow Merriman, Instructor in History. April 11, 1904.

Jared Sparks Moore, Assistant in Philosophy. June 6, 1904.

Sylvanus Griswold Morley, Instructor in Romance Languages and Literatures. March 28, 1904.

Frederic William Morrison, Assistant in French and Spanish. March 28, 1904.

Martin Mower, Instructor in Fine Arts. March 28, 1904.

William Luther Mowll, Instructor in Architecture. April 25, 1904.

James Ambrose Moyer, Instructor in Descriptive Geometry. March 28, 1904.

Arthur Edwin Norton, Instructor in Mechanical Drawing and Mathematics. March 28, 1904.

Charles Read Nutter, Instructor in English. May 9, 1904.

Frederic Austin Ogg, Assistant in History. April 11, 1904.

Robert Ezra Park, Assistant in Philosophy. June 6, 1904.

Edgar Oscar Parker, Assistant in Drawing. April 25, 1904.

Ralph Barton Perry, Instructor in Philosophy. June 20, 1904.

Francis Samuel Philbrick, Instructor in Government, February 29, 1904; Assistant in Government, March 28, 1904.

Amon Benton Plowman, Assistant in Botany. March 28, 1904.

Arthur Pope, Assistant in Fine Arts. March 28, 1904.

James Sturgis Pray, Instructor in Landscape Architecture. April 25, 1904.
Hans Hugo Pringsheim, Instructor in Industrial Chemistry. April 25, 1904.
Paul Hector Provandie, Assistant in Hygiene. March 28, 1904.
Adolph Rambeau, Lecturer in French. March 28, 1904.
Frederick William Reynolds, Instructor in English. May 9, 1904.
Ralph Webster Richards, Assistant in Mineralogy. June 20, 1904.
David Camp Rogers, Assistant in Philosophy. June 6, 1904.
Louis Ross, Austin Teaching Fellow in Applied Mechanics. March 28, 1904.
Frederick William Russe, Austin Teaching Fellow in Chemistry. March 28, 1904.
Arthur William Ryder, Instructor in Indic Philology. April 25, 1904.
Schuyler B Serviss, Assistant in Physics. June 20, 1904.
Arthur Bliss Seymour, Assistant in the Cryptogamic Herbarium. April 11, 1904.
Walter James Shepard, Austin Teaching Fellow in History. March 28, 1904.
Howard Edwin Simpson, Assistant in Meteorology, June 20, 1904; title changed to Assistant in Physiography and Meteorology, June 28, 1904.
Macy Millmore Skinner, Instructor in German. March 28, 1904.
Philip Sidney Smith, Instructor in Geology. March 28, 1904.
Francis Wolson Snow, Instructor in Romance Languages. March 28, 1904.
Charles Miner Stearns, Assistant in English. May 9, 1904.
Trumbull Stickney, Instructor in Greek. March 28, 1904.
Henry Leroy Stone, Assistant in Music. June 6, 1904.
Albert Morey Sturtevant, Instructor in German. May 9, 1904.
Walter Dana Swan, Instructor in Architecture. April 25, 1904.
Thomas Head Thomas, Austin Teaching Fellow in Fine Arts. March 28, 1904.
James Waddell Tupper, Instructor in English. May 9, 1904.
Arthur Tyng, Austin Teaching Fellow in Engineering. March 28, 1904.
Charles Marshall Underwood, Jr., Assistant in Italian. March 28, 1904.
Robert Palfrey Utter, Assistant in English. May 9, 1904.
Clement Leslie Vaughan, Assistant in Philosophy. June 6, 1904.
Harold Broadfield Warren, Instructor in Freehand Drawing. April 25, 1904.
Hermann Julius Weber, Instructor in German. May 9, 1904.
Kenneth Grant Tremayne Webster, Instructor in English. February 29, 1904.
Edgar Huidekoper Wells, Instructor in English. March 28, 1904.
Roger Clark Wells, Instructor in Physical Chemistry. April 25, 1904.
Stephen Edgar Whiting, Instructor in Electrical Engineering. March 28, 1904.
Arthur Fisher Whittem, Austin Teaching Fellow in Romance Languages. March 28, 1904.
Bertel Glidden Willard, Instructor in Public Speaking. May 9, 1904.
Robert Newton Woodworth, Assistant in Ore-dressing and Assaying. April 11, 1904.
Chester Whitney Wright, Austin Teaching Fellow in Economics. June 20, 1904.
Arthur Dickinson Wyman, Assistant in Chemistry. March 28, 1904.
Robert Mearns Yerkes, Instructor in Comparative Psychology. June 6, 1904.

MEMBER OF THE ADMINISTRATIVE BOARD OF THE LAWRENCE SCIENTIFIC SCHOOL.

[*For 1903–04.*]

Charles Henry White. October 26, 1903.

PROCTORS.

[*For 1903–04.*]

Adelbert Ames, Jr. October 19, 1903.

Harry Morgan Ayres. February 29, 1904, for the remainder of the current academic year.

William George Barr. October 19, 1903.

George Alonzo Bartlett. February 29, 1904, for the remainder of the current academic year.

Leon Gage Beeley. October 19, 1903.

Charles Wilson Brown. October 19, 1903.

Morris Ruggles Brownell. February 29, 1904, for the remainder of the current academic year.

Waddill Catchings. October 19, 1903.

Paul Blanchard Fischer. October 19, 1903.

Adams Leopold Haskell. November 9, 1903.

Royal Hatch. October 19, 1903.

Edwin William Pahlow. November 9, 1903.

Joseph Osborne Procter, 3d. October 19, 1903.

Earnest Everett Smith. November 9, 1903.

Charles Miner Stearns. November 9, 1903.

Walter Sheldon Tower. November 9, 1903.

Robert Palfrey Utter. January 25, 1904.

Edward Harmon Virgin. October 19, 1903.

Holden Pierce Williams. November 9, 1903.

[*For 1904–05.*]

Francis Raymond Sturtevant, Proctor of Divinity Hall. June 20, 1904.

MEMBERS OF THE BOARD OF EXAMINATION PROCTORS.

November 9, 1903.

Bird Thomas Baldwin.
William Lester Barnes.
Haven Darling Brackett.
Lyman Kenneth Clark.
Stuart Daggett.
Bernard Capen Ewer.
George Shannon Forbes.
Charles Edmund Fryer.
James Augustus George.
James Walter Goldthwait.
Lyman Sawin Hapgood.
Adam Leopold Haskell.
John Perham Hylan.
John Robert Johnston.
Henry Craig Jones.
John Frank Langmaid.
Rollo LuVerne Lyman.
Thomas Calvin McKay.
Arthur Beckwith Myrick.
James Blair Newell.
Charles Read Nutter.
James Horace Patten.
Frederick William Reynolds.
Guy Hall Roberts.

Grant Smith.	Roger Clark Wells.
Philip Sidney Smith.	Arthur Fisher Whittem.
Henry Smith Thompson.	Henry Oscar Wood.
Walter Sheldon Tower.	Chester Whitney Wright.
James Waddell Tupper.	Arthur Dickinson Wyman.

Henry Aaron Yeomans.

LAW SCHOOL.

[*Without limit of time, or for more than one year.*]

Robert Bowie Anderson, Assistant Librarian. November 23, 1903.

Edward Henry Warren, Assistant Professor of Law for five years from September 1, 1904.

Jens Iverson Westengard, Assistant Professor of Law for five years from September 1, 1904.

MEDICAL SCHOOL.

[*Without limit of time, or for more than one year.*]

Charles Montraville Green, Associate Professor of Obstetrics and Clinical Gynaecology from September 1, 1904. April 25, 1904.

Edward Hall Nichols, Assistant Professor of Surgical Pathology for five years from September 1, 1904. June 6, 1904.

Myles Standish, Assistant Professor of Ophthalmology for five years from September 1, 1904. April 25, 1904.

[*For 1903–04.*]

William Thomas Bailey, Assistant in Histology and Embryology. November 9, 1903.

Walter Remsen Brinckerhoff, Assistant in Pathology. November 9, 1903.

Francis Parkman Denny, Assistant in Clinical Medicine for the remainder of the current academic year. February 29, 1904.

Charles Hunter Dunn, Assistant in Pediatrics. November 9, 1903.

William Noyes, Clinical Instructor in Mental Diseases for the remainder of the current academic year. March 7, 1904.

William Henry Robey, Jr., Assistant in Clinical Medicine for the remainder of the current academic year. February 29, 1904.

Samuel Robinson, Assistant in Anatomy. November 9, 1903.

Elmer Ernest Southard, Instructor in Neuropathology, from January 1, 1904, for the remainder of the current academic year. January 11, 1904.

[*For 1904–05.*]

Carl Lucas Alsberg, Assistant in Physiological Chemistry. June 20, 1904.

George Sherwin Clarke Badger, Assistant in the Theory and Practice of Physic. June 20, 1904.

Franklin Greene Balch, Assistant in Surgery. June 20, 1904.

Henry Harris Aubrey Beach, Lecturer on Surgery. June 20, 1904.

John Bapst Blake, Instructor in Surgery. June 20, 1904.

Elliott Gray Brackett, Assistant in Orthopedics. June 20, 1904.

John Lewis Bremer, Instructor in Histology and Embryology. June 20, 1904.

George Washington Wales Brewster, Assistant in Surgery. June 20, 1904.

Walter Remsen Brinckerhoff, Assistant in Pathology. June 20, 1904.

William Allen Brooks, Jr., Assistant in Surgery. June 20, 1904.

Herbert Rutherford Brown, Austin Teaching Fellow in Comparative Pathology. June 20, 1904.

Charles Shorey Butler, Assistant in Anatomy. June 20, 1904.

Richard Clarke Cabot, Instructor in Clinical Medicine. June 20, 1904.

David Cheever, Assistant in Anatomy. June 20, 1904.

Henry Asbury Christian, Instructor in Pathology. June 20, 1904.

Edmund Wright Clap, Assistant in Ophthalmology. June 20, 1904.

Frederic Codman Cobb, Assistant in Laryngology. June 20, 1904.

Ernest Amory Codman, Assistant in Surgery. June 20, 1904.

Rockwell Augustus Coffin, Assistant in Laryngology. June 20, 1904.

John Matthew Connolly, Assistant in Chemistry. June 20, 1904.

Algernon Coolidge, Jr., Clinical Instructor in Laryngology. June 20, 1904.

Edward Cowles, Clinical Instructor in Mental Diseases. June 20, 1904.

George Arthur Craigin, Clinical Instructor in Pediatrics. June 20, 1904.

LeRoi Goddard Crandon, Assistant in Surgery. June 20, 1904.

Eugene Anthony Crockett, Assistant in Otology. June 20, 1904.

Elbridge Gerry Cutler, Instructor in the Theory and Practice of Physic. June 20, 1904.

John Dane, Assistant in Orthopedics. June 20, 1904.

Lincoln Davis, Instructor in Anatomy. June 20, 1904.

Thomas Amory DeBlois, Clinical Instructor in Laryngology. June 20, 1904.

Francis Parkman Denny, Assistant in Clinical Medicine. June 20, 1904.

James Crowley Donoghue, Assistant in Histology. June 20, 1904.

Charles Hunter Dunn, Assistant in Pediatrics. June 20, 1904.

Samuel Holmes Durgin, Lecturer on Hygiene. June 20, 1904.

John Wheelock Elliott, Lecturer on Surgery. June 20, 1904.

Robert Leonard Emerson, Instructor in Physiological Chemistry. June 20, 1904.

Eugene Ellsworth Everett, Assistant in Bacteriology. June 20, 1904.

John Woodford Farlow, Clinical Instructor in Laryngology. June 20, 1904.

William Edward Faulkner, Assistant in Surgery. June 20, 1904.

Elisha Flagg, Assistant in Anatomy. June 20, 1904.

Leo Victor Friedman, Assistant in Obstetrics. June 20, 1904.

Langdon Frothingham, Austin Teaching Fellow in Bacteriology. June 20, 1904.

George Washington Gay, Lecturer on Surgery. June 20, 1904.

Joel Ernest Goldthwait, Assistant in Orthopedics. June 20, 1904.

Charles Montraville Green, Secretary to the Faculty of Medicine. June 20, 1904.

Robert Battey Greenough, Assistant in Surgery. June 20, 1904.

Philip Hammond, Assistant in Otology. June 20, 1904.

Francis Bishop Harrington, Lecturer on Surgery. June 20, 1904.

Henry Hill Haskell, Assistant in Ophthalmology. June 20, 1904.

Henry Fox Hewes, Instructor in Clinical Chemistry. June 20, 1904.

Hibbert Winslow Hill, Instructor in Bacteriology. June 20, 1904.

Edwin Everett Jack, Assistant in Ophthalmology. June 20, 1904.

Henry Jackson, Instructor in Clinical Medicine. June 20, 1904.

James Marsh Jackson, Assistant in Clinical Medicine. June 20, 1904.

Daniel Fiske Jones, Assistant in Surgery. June 20, 1904.

James Oscar Jordan, Assistant in Materia Medica. June 20, 1904.

Elliott Proctor Joslin, Assistant in the Theory and Practice of Physic. June 20, 1904.

Clarence Whittier Keene, Assistant in Neuropathology and in Pathology. June 20, 1904.

Philip Coombs Knapp, Clinical Instructor in Diseases of the Nervous System. June 20, 1904.

Maynard Ladd, Assistant in Pediatrics. June 20, 1904.

Frederic Thomas Lewis, Instructor in Histology and Embryology. June 20, 1904.

Edwin Allen Locke, Assistant in Clinical Medicine. June 20, 1904.

Howard Augustus Lothrop, Instructor in Surgery. June 20, 1904.

Robert Williamson Lovett, Assistant in Orthopedics. June 20, 1904.

Fred Bates Lund, Assistant in Surgery. June 20, 1904.

George Burgess Magrath, Assistant in Pathology. June 20, 1904.

Henry Orlando Marcy, Jr., Assistant in Anatomy. June 20, 1904.

Samuel Steen Maxwell, Instructor in Physiology. June 20, 1904.

Samuel Jason Mixter, Lecturer on Surgery. June 20, 1904.

George Howard Monks, Lecturer on Surgery. June 20, 1904.

John Lovett Morse, Instructor in Pediatrics. June 20, 1904.

Harris Peyton Mosher, Assistant in Laryngology, and Assistant in Anatomy. June 20, 1904.

James Gregory Mumford, Instructor in Surgery. June 20, 1904.

John Cummings Munro, Lecturer on Surgery. June 20, 1904.

Fred Towsley Murphy, Assistant in Anatomy. June 20, 1904.

Franklin Spilman Newell, Instructor in Obstetrics, and Assistant in Gynaecology. June 20, 1904.

William Noyes, Clinical Instructor in Mental Diseases. June 20, 1904.

Calvin Gates Page, Assistant in Bacteriology. June 20, 1904.

Henry Joseph Perry, Assistant in Bacteriology. June 20, 1904.

Charles Allen Porter, Instructor in Surgery. June 20, 1904.

Abner Post, Instructor in Syphilis. June 20, 1904.

Joseph Hersey Pratt, Assistant in the Theory and Practice of Physic. June 20, 1904.

Alexander Quackenboss, Assistant in Ophthalmology. June 20, 1904.

Frank Linden Richardson, Austin Teaching Fellow in Surgery. June 20, 1904.

William Henry Robey, Jr., Assistant in Clinical Medicine, and Assistant in Bacteriology. June 20, 1904.

Samuel Robinson, Assistant in Anatomy. June 20, 1904.

David Daniel Scannell, Assistant in Anatomy. June 20, 1904.

Charles Morton Smith, Assistant in Syphilis. June 20, 1904.

William Henry Smith, Assistant in Clinical Medicine. June 20, 1904.

Elmer Ernest Southard, Instructor in Neuropathology. June 20, 1904.

Fred Maurice Spalding, Assistant in Ophthalmology. June 20, 1904.

Arthur Kingsbury Stone, Assistant in the Theory and Practice of Physic. June 20, 1904.

Malcolm Storer, Assistant in Gynaecology. June 20, 1904.

Howard Townsend Swain, Assistant in Obstetrics. June 20, 1904.

Ewing Taylor, Austin Teaching Fellow in Histology and Embryology. June 20, 1904.

Edward Wyllys Taylor, Assistant in Neurology. June 20, 1904.

Paul Thorndike, Instructor in Genito-Urinary Surgery. June 20, 1904.

James Rockwell Torbert, Assistant in Obstetrics. June 20, 1904.

Ernest Edward Tyzzer, Assistant in Pathology. June 20, 1904.

Maurice Paul Octave Vejux-Tyrode, Instructor in Pharmacology. June 20, 1904.

Herman Frank Vickery, Instructor in Clinical Medicine. June 20, 1904.

Richard Goodwin Wadsworth, Assistant in Anatomy. June 20, 1904.

David Harold Walker, Assistant in Hygiene. June 20, 1904.

George Lincoln Walton, Clinical Instructor in Diseases of the Nervous System. June 20, 1904.

George Arthur Waterman, Assistant in Neurology. June 20, 1904.

Francis Sedgwick Watson, Lecturer on Genito-Urinary Surgery. June 20, 1904.

Charles James White, Instructor in Dermatology. June 20, 1904.

Franklin Warren White, Assistant in the Theory and Practice of Physic. June 20, 1904.

George Shattuck Whiteside, Assistant in Anatomy. June 20, 1904.

Charles Francis Withington, Instructor in Clinical Medicine. June 20, 1904.

James Homer Wright, Instructor in Pathology. June 20, 1904.

Ernest Boyer Young, Assistant in Gynaecology. June 20, 1904.

DENTAL SCHOOL.

[*Without limit of time, or for more than one year.*]

William Henry Potter, Professor of Operative Dentistry from September 1, 1904. April 11, 1904.

[*For 1904–05.*]

Lawrence Wills Baker, Instructor in Orthodontia. June 20, 1904.

Edwin Carter Blaisdell, Instructor in Operative Dentistry. June 20, 1904.

Frederick Bradley, Instructor in Operative Dentistry. June 20, 1904.

Asher Harriman St. Clair Chase, Assistant Demonstrator of Mechanical Dentistry. June 20, 1904.

Ernest Howard Chute, Instructor in Mechanical Dentistry. June 20, 1904.

Dwight Moses Clapp, Clinical Lecturer on Operative Dentistry. June 20, 1904.

Harold DeWitt Cross, Demonstrator of Mechanical Dentistry. June 20, 1904.

Horace Amos Davis, Instructor in Operative Dentistry. June 20, 1904.

Dwight Ward Dickinson, Demonstrator of Operative Dentistry. June 20, 1904.

John Dana Dickinson, Clinical Instructor in Mechanical Dentistry. June 20, 1904.

John Walker Dickinson, Instructor in Mechanical Dentistry. June 20, 1904.

Forrest Greenwood Eddy, Instructor in Operative Dentistry. June 20, 1904.

Arthur Warren Eldred, Instructor in Mechanical Dentistry. June 20, 1904.

John Irving Esgate, Instructor in Operative Dentistry. June 20, 1904.

John Wesley Estabrooks, Instructor in Mechanical Dentistry. June 20, 1904.

James Austin Furfey, Instructor in Operative Dentistry. June 20, 1904.

Harry Linwood Grant, Instructor in Mechanical Dentistry. June 20, 1904.

Amos Irving Hadley, Instructor in Mechanical Dentistry. June 20, 1904.

Thomas Bernard Hayden, Instructor in Mechanical Dentistry. June 20, 1904.

Elbridge Decosmos King, Instructor in Operative Dentistry. June 20, 1904.
Marquis D Littig, Instructor in Operative Dentistry. June 20, 1904.
Charles Winthrop McPherson, Instructor in Operative Dentistry. June 20, 1904.
Elmer Joseph Marston, Instructor in Operative Dentistry. June 20, 1904.
Harry Snow Parsons, Instructor in Mechanical Dentistry. June 20, 1904.
Joseph Totten Paul, Instructor in Operative Dentistry. June 20, 1904.
Charles Ernest Perkins, Instructor in Operative Dentistry. June 20, 1904.
Norman Greene Reoch, Instructor in Orthodontia. June 20, 1904.
Charles William Rodgers, Assistant in Dental Materia Medica. June 20, 1904.
Melville Forrest Rogers, Instructor in Operative Dentistry. June 20, 1904.
Harry Benjamin Shuman, Instructor in Oral Surgery. June 20, 1904.
Henry Carlton Smith, Austin Teaching Fellow in Dental Chemistry. March 7, 1904.
David Frederick Spinney, Instructor in Mechanical Dentistry. June 20, 1904.
Wilfred Harlow Starratt, Instructor in Operative Dentistry. June 20, 1904.
Arthur Henry Stoddard, Clinical Lecturer in Mechanical Dentistry. June 20, 1904.
Edward Wyllys Taylor, Instructor in Neurology. June 20, 1904.
Evan Parker Wentworth, Instructor in Operative Dentistry. June 20, 1904.
Robert Whitehill, Instructor in Operative Dentistry. June 20, 1904.

BUSSEY INSTITUTION.

[*For 1903–04.*]

Charles Gilman, Instructor in Mathematics and Surveying. October 19, 1903.

[*For 1904–05.*]

Daniel Allen Clarke, Assistant in Horticulture. March 14, 1904.
Frank Thompson Dillingham, Instructor in Agricultural Chemistry. June 20, 1904.
Charles Gilman, Instructor in Mathematics and Surveying. June 20, 1904.
John Hamilton Robinette, Instructor in Agriculture. June 20, 1904.

OBSERVATORY.

William Henry Pickering, Assistant Professor of Astronomy for five years from September 1, 1904. June 6, 1904.

OTHER APPOINTMENTS.

[*Without limit of time, or for more than one year.*]

Hiram Bingham, Jr., Curator of South American History and Literature from September 1, 1903. October 26, 1903.
Francis Dohs, Instructor in Gymnastics. March 28, 1904.
Harry Nelson Gay, Curator of Italian History of the 19th century from September 1, 1903. October 26, 1903.

Richard Alexander Fullerton Penrose, Jr., Associate of University Museum in Geology for three years from September 1, 1903. February 8, 1904.

Charles Joshua Ramsdell, Steward of the Randall Hall Association. October 19, 1903.

Frank Springer, Associate of University Museum in Palaeontology for five years from September 1, 1903. February 8, 1904.

Charles Miner Stearns, Chairman of the Parietal Board from September 1, 1904. June 28, 1904.

Henry Smith Thompson, Secretary for Appointments from July 1, 1904. June 28, 1904.

Andrew Gray Weeks, Jr., Associate of University Museum in Entomology for two years from September 1, 1903. February 8, 1904.

Edgar Huidekoper Wells, Curator of Modern English Literature from September 1, 1903. November 9, 1903.

Holden Pierce Williams, Assistant in College Office from September 1, 1903. November 9, 1903.

[*For 1903–04.*]

Adolf Hemple, Associate of University Museum in Zoölogy. February 8, 1904.

[*For 1904–05.*]

Herbert Melville Boylston, Auditor of the Randall Hall Association. June 20, 1904.

PREACHERS TO THE UNIVERSITY.

May 16, 1904.

Lyman Abbott.	William Wallace Fenn.
Henry Van Dyke.	Floyd Williams Tomkins.

John Heyl Vincent.

COMMITTEE ON FOGG ART MUSEUM.

Francis Bullard, June 6, 1904.
Arthur Tracy Cabot, May 9, 1904.
Edward Waldo Forbes, May 9, 1904.
Charles Herbert Moore, May 9, 1904.
Denman Waldo Ross, May 9, 1904.
Herbert Langford Warren, May 9, 1904.
John Henry Wright, June 6, 1904.

COMMITTEE ON THE REGULATION OF ATHLETIC SPORTS.

June 6, 1904.

Faculty Members:	*Graduate Members:*
Abram Piatt Andrew.	Norman Williams Bingham, Jr.
Archibald Cary Coolidge.	Edward Hall Nichols.
Horatio Stevens White.	Thomas Nelson Perkins.

TRUSTEES OF THE MUSEUM OF FINE ARTS.

November 23, 1903.

William Sturgis Bigelow.
Arthur Tracy Cabot.
John Templeman Coolidge, Jr.

TRUSTEES OF THE HARVARD UNION.

June 28, 1904.

Charles Francis Adams, 2d.
William C. Boyden.

SUMMER SCHOOL FOR PORTO RICAN TEACHERS.

OFFICERS OF INSTRUCTION AND MANAGEMENT.

In charge of Instruction and Excursions in the absence of the President.

Jerome Davis Greene.

TEACHERS OF ENGLISH.

Elementary Classes.

Harriet Miriam Cutler.
Alphonse Marin La Meslée.
Mary Theresa Loughlin.
Frederic William Morrison.
Andrew Paul Raggio.

Intermediate Classes.

Lillian Estelle Clark.
Antonio Alfredo Capotosto.
Nellie Isabel Simpson.
Albert Leslie Pitcher.
Joseph Smith.

Advanced Classes.

Elizabeth Forbes.
Peter Hair Goldsmith.

LECTURERS.

Frederic M. Noa, six lectures on Cuba and South America.
Peter H. Goldsmith, six lectures on Mexico and the Southern States.
William MacDonald, three lectures on American History.
Eugene Abraham Darling, three lectures on Hygiene.
William W. Ellsworth, six lectures on the American Revolution.
Philip Sidney Smith, six lectures on American Geography (cancelled).
George I. Aldrich, four lectures on the American Educational System.

In charge of Transportation, Lodging, and Baggage Arrangements on arrival.

Howard Lane Blackwell.
Harvey Nathaniel Davis.
Lewis Wendell Hackett.

TEXT-BOOKS AND READERS.

Class	Teacher	No. of Pupils	Grade	Books
1	Forbes	38	Advanced	Arnold and Kittredge's Mother Tongue II; Goldsmith's El Idioma Inglés, Book III. Irving's Sketch Book.
2	Simpson	33	Intermediate	Arnold and Kittredge's Mother Tongue II; Irving's Sketch Book.
3	Clark	28	Intermediate	The same as in Class 2.
4	Cutler	30	Elementary	Arnold and Kittredge's Mother Tongue I; Stories from Hawthorne.
5	Loughlin	16	Elementary	Arnold and Kittredge's Mother Tongue I; Dickens's Christmas Carol.
6	Goldsmith	22	Advanced	The same as in Class 1.
7	Pitcher	25	Intermediate	Goldsmith's El Idioma Inglés, Book III; Defoe's Robinson Crusoe (abridged).
8	Smith	26	Intermediate	Arnold and Kittredge's Mother Tongue II; Ybarra's English-Spanish Method.
9	Capotosto	21	Intermediate	Carrington's Beacon Lights of Patriotism.
10	Morrison	28	Elementary	Ybarra's English-Spanish Method.
11	La Meslée	18	Elementary	Ybarra's English-Spanish Method.
12	Raggio	23	Elementary	Goldsmith's El Idioma Inglés, Books I and III.
13	Sawyer * McKenzie *	13	Elementary	Arnold and Kittredge's Mother Tongue I.

EXCURSIONS.

[*Tickets at 10 cents each for the Wednesday excursions, and 25 cents each for the Saturday excursions, were sold through the Section Chiefs.*]

Saturday,	July 16.	Norumbega Park; Concord; Blue Hill.
Wednesday,	July 20.	"Youth's Companion" Office; Boston Museum of Fine Arts; Riverside Press; Athenaeum Press; Cambridge Public School Buildings.
Thursday,	July 21.	Mechanic Arts High School and Vacation Schools, Boston (on the invitation of Mr. James J. Storrow, of the Boston School Committee).
Wednesday,	July 27.	"Youth's Companion" Office; Museum of Fine Arts; Public Library, Boston; Athenaeum Press; Cambridge Public School Buildings.
Thursday,	July 28.	W. L. Douglas Shoe Factory (for the men — on the invitation of Mr. A. F. Estabrook); Wellesley College (for the women — on the invitation of Mr. and Mrs. S. M. Lindsay).

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* These teachers were detailed by the Commissioner of Education to teach the class containing the most backward pupils.

Saturday,	July 30.	Norumbega Park; Concord.
Wednesday,	August 3.	"Youth's Companion" Office; Museum of Fine Arts; Public Library, Boston; Athenaeum Press; Cambridge Public School Buildings.
Friday,	August 5.	Estate of Mr. J. Montgomery Sears, Southborough (for the men — on the invitation of Mr. Sears).

LABORATORY VISITS.

[*For teachers especially interested in Science.*]

Tuesday,	July 19.	Zoölogical Laboratory.
Tuesday,	July 26.	Jefferson Physical Laboratory.
Friday,	July 29.	Chemical Laboratory.
Thursday,	August 4.	Astronomical Observatory.

PORTO RICAN SUMMER SCHOOL LEASE.

Cambridge, Mass.,
June............, 1904.

I hereby agree to lease to Harvard University........................furnished rooms, described below, for......................Spanish, or colored, Porto Rican $\genfrac{}{}{0pt}{}{\text{women}}{\text{men}}$ teachers, for about six weeks, beginning July 2, or on their arrival, if delayed, and ending about August 15, or a day or two earlier or later, for the sum of....................per person per week, and fractions of a week proportionally.

I agree to care for these rooms satisfactorily and properly, to furnish clean linen and towels, to supply good lamps, or gas, and to offer the use of bath-room and of a parlor at any time.

I further agree that I will take no $\genfrac{}{}{0pt}{}{\text{men}}{\text{women}}$ as lodgers during this time.

This lease is subject to termination if any part of the above agreement be not kept, or if the city inspector of plumbing shall disapprove the sanitary conditions.

DESCRIPTION OF ROOMS.

Floor.	Exposure of windows.	Number of beds.	Number of occupants.

Signed..

Street and number..

CONCURRENT RESOLUTION OF CONGRESS AUTHORIZING THE TRANSPORTATION OF THE PORTO RICAN TEACHERS TO THE UNITED STATES.

(58TH CONGRESS, 2D SESSION, CONCURRENT RESOLUTION NO. 26.)

Resolved by the House of Representatives (*the Senate concurring*), That the Secretary of War be, and he is hereby, authorized and directed during the year nineteen hundred and four, at such time as requested by the governor of the island of Porto Rico, to transport from the island of Porto Rico to the United States and to return from the United States to Porto Rico, on one or more of the vessels engaged in the transport service of the United States, not to exceed six hundred of the teachers in the public schools of said island, such teachers to be selected by the Commissioner of Education of said island, for the purpose of attending the various summer schools of the universities, colleges, and other institutions of learning in the United States during said year: *Provided*, That the Government of the United States shall not be liable for, and shall not defray, the expenses of said teachers, or of any of them, incurred while in the United States.

FINANCIAL STATEMENT.

INSTRUCTION.

English Instruction (12 instructors at $150 each)	$1800.00
Instruction in Summer Schools (31 pupils at $12.50 each)	387.50
Lectures (36 at $33.33 each)	1199.88
Superintendence of Instruction and of Excursions	250.00
Books and Stationery	298.42
Printing by College Press	73.55
Sundries: — Carriage, $5; Water cooler, $5.40; Gas and Electricity at Gymnasium, $11.10; Services of 3 men at Gymnasium, four nights at $5 a night, $20; Lantern operator, $16.50; Special car to Observatory, $3; Express, $1.20; Miscellaneous, $3.94	66.14
	$4075.49

The above expenses were charged to the Porto Rican Expedition at the rate of $12.50 per person for 326 persons, — total, $4075.00.

BOARD AT SUMMER SCHOOL RESTAURANT.

Three hundred and forty-one six weeks' certificates at $18	$6138.00
Less allowance for early departure	350.00
	5788.00
Additional for 150 visitors, August 8	30.00
	$5818.00

LODGING.

The bills for lodging 351 persons 5½ weeks, amounting to $3208.97 (average $1.66 each per week), were certified by the Business Manager of the Expedition, and paid by the Expedition through the Bursar of the University.

LETTER FROM MEMBERS OF THE SUMMER SCHOOL OF THEOLOGY.

To the President, the Corporation, and the Theological Faculty of Harvard University: —

Gentlemen, — At a meeting of the members of the Summer School of Theology, held July 19th, 1904, Rev. Prescott Evarts presiding, the following Committee was appointed to prepare a paper expressing the appreciation felt by those who have enjoyed the excellent course of instruction this year provided: —

The Rev. Leonard Woolsey Bacon, Assonet, Mass.
" Arthur Leolin Howe, Wilbraham, Mass.
" Richard Wilson Boynton, St. Paul, Minn.
" Frederick Harlan Page, Lawrence, Mass.
" George Lyman Paine. Dorchester, Mass.
" Langley Barnas Sears, Groton, Conn.

At a meeting held on the following day, July 20th, this Committee reported the following resolution, and it was unanimously adopted: —

To the President, the Corporation, and the Theological Faculty of Harvard University: —

Gentlemen, — We, the members of the Summer School of Theology for 1904, desire to express to you first of all our high and grateful appreciation of the privileges we have enjoyed in the term now closing. We recognize in the learned and able instructions to which we have listened, not only a source of rare intellectual and spiritual enjoyment, but a preparation for greater efficiency in that work of the Christian ministry in which we are engaged.

We are eager to prove the sincerity of our gratitude by commending to others, in future summers, the privileges which we so highly value for ourselves. We assure you of our unanimous willingness to coöperate with you, by such ways as may be open to us, in widening the effective usefulness of the School.

It seems to us of public importance, not only that such facilities for summer study be provided for those engaged in the profession of the ministry, but that they be provided here at Cambridge. We need emphasize only one of the many obvious reasons for this: beside the singular natural and historical charms of the place, its vast resources in libraries and museums, and its ample accommodations for sojourners at moderate cost, it has the crowning advantage of being above all others the place for the gathering of scholars of the widest diversity of opinions and ecclesiastical relations. It is our hope that such influence as we may severally or collectively exert may tend to emphasize this comprehensive character of the School.

We should be pleased to receive from you whatever suggestions you might wish to make. Meanwhile, as a sort of Alumni Association thus informally constituted, we hold ourselves ready, as occasion may require, to take whatever steps may tend to enlarge the membership of the School.

At a subsequent meeting it was voted to continue the above named Committee as a permanent representative of this informal association, Rev. Leonard Woolsey Bacon acting as chairman.

(Signed) Prescott Evarts,
Chairman of the Meeting.
Loren B. Macdonald,
Secretary.

TABLE I.

Illness Report, 1903–04.

Diseases.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Appendicitis	5	1	1	2	2	7	3	3	2	26
Asthma	1	1	1	3	2	1	3	1	..	13
Bronchitis	3	16	10	20	13	11	8	7	..	88
Chicken-pox	..	1	3	2	..	..	..	..	..	6
Colds — unclassified	118	144	107	163	78	153	95	33	3	894
Constipation	2	2	1	1	..	1	1	1	..	9
Coryza	7	9	6	10	15	10	3	1	..	61
Dentistry	6	16	9	10	5	21	15	3	2	87
Diarrhoea	31	29	11	20	8	19	29	7	..	154
Diphtheria	1	4	5	..	1	1	..	1	..	13
Ear, of the	2	1	4	5	4	7	2	..	..	25
Eye, of the	18	40	20	13	29	53	27	20	6	226
General Debility	7	19	18	9	19	9	7	9	1	98
Headache	15	24	16	23	12	25	16	11	2	144
Indigestion	61	66	83	51	34	76	54	53	3	481
Insomnia	1	2	4	..	4	4	..	..	..	15
Jaundice	6	3	1	5	3	2	..	..	..	20
La Grippe	13	26	22	29	67	99	42	9	..	307
Laryngitis	..	3	7	6	3	..	3	3	..	25
Malaria	2	5	4	2	1	2	5	5	..	26
Measles	..	..	..	..	11	29	19	13	3	75
Miscellaneous	24	42	39	36	30	54	46	25	8	304
Mumps	..	..	..	3	2	8	12	3	..	28
Neuralgia	4	8	4	8	5	12	8	6	..	55
Overwork	9	9	2	3	6	8	7	6	3	53
Pharyngitis	11	27	59	22	17	30	21	11	3	201
Pneumonia	..	1	1	1	2	2	1	1	..	9
Rheumatism	5	8	9	5	8	13	6	3	..	57
Scarlet Fever	1	2	1	..	1	1	..	1	..	7
Skin, of the	4	8	12	5	6	8	10	5	2	60
Surgical	50	72	34	45	30	53	45	45	3	377
Tonsillitis	12	42	29	76	38	33	22	18	10	280
Typhoid	1	1	..	3	..	..	2	1	..	8
Totals	420	632	523	581	456	752	512	305	51	4232

Visits	1137
Office consultations	3056
Total number of consultations	4193
Calls on students not found in (not included in above)	268
Other cases not seen by the Medical Visitor	2800

TABLE II.

Illness Report as Related to the different Schools.

Diseases.	College.					Scientific.					Law.	Graduate.	Divinity.	Totals.
	1	2	3	4	Sp.	1	2	3	4	Sp.				
Appendicitis	7	3	2	1	1	2	..	1	..	1	4	3	1	26
Asthma	4	7	2	..	..	..	..	..	..	..	..	..	..	13
Bronchitis	25	32	17	6	1	1	2	1	1	..	1	1	..	88
Chicken-pox	2	2	1	..	..	..	..	..	1	..	..	..	..	6
Colds, unclassified	212	306	149	85	26	18	38	15	15	20	3	5	2	894
Constipation	2	..	..	2	..	1	2	..	..	1	1	..	..	9
Coryza	19	18	10	4	1	2	1	..	2	..	3	1	..	61
Dentistry	25	31	14	7	2	2	2	1	..	2	1	..	..	87
Diarrhoea	26	60	34	7	4	6	5	5	2	5	..	..	..	154
Diphtheria	4	..	..	4	1	..	1	..	..	..	2	1	..	13
Ear, of the	5	6	5	7	1	1	..	..	..	..	..	..	..	25
Eye, of the	63	66	36	27	4	4	10	10	3	2	1	..	..	226
General Debility	20	29	15	18	5	..	2	2	1	2	2	2	..	98
Headache	61	37	16	10	4	6	3	..	3	3	1	..	..	144
Indigestion	124	157	78	44	18	13	12	10	6	7	7	5	..	481
Insomnia	4	6	1	1	1	1	..	..	..	..	1	..	..	15
Jaundice	3	5	3	2	..	1	1	..	..	1	1	3	..	20
La Grippe	79	89	52	29	11	9	12	6	6	2	9	3	..	307
Laryngitis	5	5	10	2	..	..	1	1	..	..	1	..	..	25
Malaria	2	6	7	3	1	..	2	1	..	..	2	2	..	26
Measles	10	14	12	8	2	3	6	2	3	4	7	3	1	75
Miscellaneous	72	83	51	36	11	5	6	4	3	8	12	12	1	304
Mumps	3	13	4	3	..	..	1	1	..	..	1	1	1	28
Neuralgia	11	19	7	11	1	2	1	1	..	1	..	1	..	55
Overwork	3	11	9	7	1	2	1	1	1	4	5	6	2	53
Pharyngitis	52	68	36	13	2	7	7	6	2	4	2	2	..	201
Pneumonia	2	2	2	..	1	1	..	..	..	..	1	..	..	9
Rheumatism	12	12	16	13	..	1	2	..	1	1	..	..	..	57
Scarlet Fever	1	1	1	1	..	..	1	..	1	1	..	..	..	7
Skin, of the	14	15	10	6	2	2	2	2	..	1	3	3	..	60
Surgical	95	102	71	43	5	13	15	6	8	12	4	2	1	377
Tonsillitis	54	104	42	29	9	4	5	5	7	2	14	5	..	280
Typhoid	2	4	1	..	..	1	..	..	..	..	..	..	..	8
Totals	1023	1313	714	429	115	107	141	81	66	84	89	61	9	4232
No. of Students	556	630	425	325	137	114	149	80	85	120	738	387	52	
% of "Sign-offs"	184	208	168	132	84	94	95	101	78	70	12	17	17	

STILLMAN INFIRMARY

List of Cases, 1903–04

Abscess	11
Appendicitis	19
Arthritis — knee	1
Bronchitis	15
Carbuncle — neck	1
Concussion — cerebral	1
Cystitis	1
Electric shock	1
Epididymitis	5
Erysipelas complicated by pneumonia	1
Fissure in ano	2
Fracture — Colles	1
" of fibula	1
" of nose	2
" of radius and ulna	1
" of toe	1
Hematoma	1
Hemorrhage from nose	1
Hemorrhoids	2
Herpes Zoster	1
Hiccough	1
Insomnia	1
Jaundice	10
La Grippe	55
Lymphangitis	1
Malaria	2
Miscellaneous Medical	32
" Surgical	22
Otitis Media	2
Pharyngitis	3
Phimosis	2
Pleuritis with effusion	1
Pneumonia	5
Pyaemia	1
Rheumatism	11
Sprained ankle	3
" knee	1
Stricture of urethra	1
Synovitis — knee	2
Tonsillitis	53
Torticollis	1
Typhoid Fever	2
Wound — septic — of leg	1
" puncture — of thigh	1
" gunshot — index finger	1
No diagnosis	6
Total	290

Room patients	117
Ward patients	173
Total	290

Discharged — well	173
" relieved	106
" not relieved	1
" transferred	6
Died	4
Total	290

Total number of hospital days	1805
Daily average	6.58

INCOME FOR UNIVERSITY, COLLEGE, LAWRENCE SCIENTIFIC SCHOOL, AND LIBRARY ACCOUNTS FROM STUDENTS, AND FROM INVESTMENTS, IN 1831–32, 1871–72, AND 1903–04.

FROM STUDENTS.

	1831–32	1871–72	1903–04
For Instruction	....	$95,067.05	$460,692.83
Rents	....	19,309.00	75,922.23
Special repairs	....	818.55	....
Diplomas	....	280.00	....
Gymnasium Fees	....	....	3,478.00
Examination “	....	....	5,095.00
Graduation “	....	....	9,320.00
Laboratory “	....	....	28,097.70
A.M. Degree “	....	771.00	....
A.B. “ “ (out of course)	....	12.50	....
All items	$22,645.60	....	....
Stillman Infirmary Fees	....	....	6,588.76
Summer Camp, Squam Lake, Fees and Expenses	....	....	10,086.40
	$22,645.60	$116,258.10	$599,280.92

FROM INVESTMENTS.

[*Excluding gifts, sales, and income for museums.*]

	1831–32	1871–72	1903–04
For University Account, including, in 1903–04, Retiring Allowance Fund income, $17,478.09	....	$22,201.00	$72,268.42
University, College and Library	$17,746.00	....	....
College salaries and expenses, including Appleton Chapel	....	47,930.68	99,740.94
Jefferson Physical Laboratory	....	....	3,681.39
Botanic Garden, including use of house	549.66	3,359.50	5,105.67
Gray Herbarium	....	1,030.07	4,243.22
Phillips Brooks House	....	....	1,318.95
Stillman Infirmary	....	....	3.937.17
Fellowships and Scholarships	155.00	24,565.18	76,567.41
Beneficiary	851.00	1,469.25	29,387.22
Prizes	348.97	2,242.65	8,275.89
Special purposes (see p. 70, Treasurer's Statement for 1903–04)	....	....	18,651.86
Library — Books	300.00	8,236.06	20,297.35
Publications	....	....	366.48
Administration	....	....	29,608.79
	$19,950.63	$111,034.39	$373,450.76

FUND OF THE CLASS OF 1856.

"BOSTON, January 21, 1904.

"TO THE PRESIDENT AND FELLOWS
OF HARVARD COLLEGE.

"GENTLEMEN: —

"The Class of 1856 desires to transfer to you its Class Fund now amounting to $7,500, to be held as the property of Harvard College on the following terms: —

"*First:* A separate account shall be kept by the Treasurer of the College with 'The Fund of the Class of 1856,' which account shall be credited with the sum above-named and with such other sums as may be added thereto from time to time by said Class or by any other person, in amounts of not less than one hundred dollars. Upon the death of the last surviving member of the said Class the above-named account shall be closed and the amount then credited thereto including accumulated income shall be transferred to the account of the Class Subscription Fund, the income of which is devoted to the general purposes of the College.

"*Second:* Until said account shall be closed as above provided, the amount standing to the credit of its capital account shall be invested at the discretion of the President and Fellows and share with other funds in the 'General Investments' of the College.

"*Third:* The income received for the Fund of the Class of 1856 shall be credited annually to the account of said Fund, and the amount of income so credited shall be payable on demand to the Secretary of the Class whose receipt therefore shall be full discharge to the President and Fellows for all sums paid to him. The Class Secretary shall not call for money oftener than once a year unless with the consent of the Treasurer of the College. All income not so called for within the fiscal year of the College following the date of its credit to the Class, shall be credited to, and become a part of, the principal of said Fund at the end of such year. If at any time there shall be no Secretary of the Class of 1856, the Treasurer may in his discretion pay the income to any member or members of the Class of 1856, whose receipt therefor shall be a full discharge to the President and Fellows, who shall have no responsibility for the application of the money.

(Signed) DAN. A. GLEASON,
Class Secretary.

CHS. E. VAUGHAN,
DAVID P. KIMBALL,
Class Committee."

OCCUPATIONS OF STUDENTS' FATHERS: WAGE EARNERS.

College.

Accountant or Book-keeper	24
Agent	7
Baker	1
Broom Maker	1
Carpenter	16
Clerk, Secretary, or Stenographer	52
Cook	1
Cooper	2
Court Officer	1
Dyer	1
Engineer and Fireman	9
Flax Spinner	1
Foreman, Manager, or Superintendent	15
Hackman	1
Iron Moulder	1
Knitter	1
Laborer	5
Letter Carrier	6
Lumberman	1
Machinist	10
Mason, Stone Polisher, or Marble Cutter	7
Mechanic	5
Mill Employee	2
Millwright	1
Miner	3
Painter	3
Paper Hanger	1
Policeman	2
Printer	9
Railroad Employee	12
Salesman	34
Shoe Cutter, etc.	3
Soldier (Swedish Army)	1
Steam Fitter	1
Tailor	6
Teamster	2
Tinsmith	1
Wagon Maker	1
Watch Maker	1
Watchman	2
	253

Lawrence Scientific School.

Accountant or Auditor	3
Agent	4
Book-keeper	4
Buyer	2
Carpenter	4
Chemist	1
Engineer	1
Foreman or Superintendent	4
Gardener	3
Government Employee	4
Iron Moulder	1
Janitor	2
Laborer	1
Mill Employee	1
Millwright	1
Paper Hanger	1
Plumber	2
Policeman	1
Railroad Employee	4
Sailmaker	1
Salesman	4
Secretary	2
Stonecutter	1
Tailor	1
Teamster	1
Teller	1
Theatre Employee	1
Treasurer	2
Water Department	1
Woodworker (Machine)	1
	60

REPORT OF THE SECRETARY FOR APPOINTMENTS

[*The Secretary for Appointments is at the service of graduates and students of the University seeking employment of any sort, and of all persons offering employment suitable for graduates or students of the University.*]

To the President of the University:—

Sir, — I have the honor to submit a report on the work of the Appointments Office for the year ending October 1, 1904.

The number of persons registered with the Office is 2,419. By far the greater part of these are registered for positions as teachers. It is apparently the impression of most of our graduates who know anything of the Appointments Office that its sole function is to try to provide places for those of our men who wish to teach. Indeed, this is the side of the work that has been most strongly developed; but of late there has been an increasing call on the Office for men — especially for men trained in applied science — for permanent and for temporary positions in business. Of the number of men registered with the Office, not more than one-third are actively on our lists. It has been impossible with the present force of the Office to keep track of the men registered; and this inability to keep on our working lists the names of all the men registered with us is very much to be regretted; for by thus reducing the number of men available for new positions or for promotion the efficiency of the Office is correspondingly reduced. It is to be hoped that this drawback may soon in some way be remedied; for under the present arrangement we are able to do no more than keep up after a fashion from day to day with what seems an ever increasing and, I believe, a healthy growth of the work of the Office.

The figures in the following tables of positions filled make no distinction as to whether the positions were secured

(1) by applications from schools or teachers made direct to the Office;
(2) by applications from schools or teachers made to Departments of the University, or to individual members of the Departments;
(3) by applications from Teachers' Agencies or Business Agencies to the Office;
(4) by requests from candidates, who have heard of positions, for recommendations of the Office; or,
(5) by requests from teachers, or schools, for recommendations of the Office for candidates who have applied for positions.

It has seemed useless to separate the positions filled into the categories given above. The direct method of application, represented in categories 1 and 2, results in securing a greater percentage of positions (compared with the number of inquiries) than any of the less direct methods of application. It has not been possible to gather accurate statistics of positions secured as a result of the indirect method of application represented in category 3. It is also quite impossible to tell how many of the positions secured through requested recommendations, represented in categories 4 and 5, would have been secured without the influence of the Office.

The following table shows the number of strictly teaching positions filled, report of which has been made to the office. Of these there were 129: —

TEACHING POSITIONS

University or College	49	Academies (so called)	13
University Extension Lecturer	1	Normal Schools	6
Technical Schools	4	Tutors for one year	14
Private or Endowed Schools	25	Companions for one year	3
Public High Schools	14	Total	129

The following table shows the number of Administrative positions filled. Of these there were 16: —

ADMINISTRATIVE POSITIONS (EDUCATIONAL)

President of University	1
Superintendent of Schools	3
Principal of Public or Endowed Schools and Academies	10
Assistant or Sub-Principal	2
Total	16

The following table shows the number of business positions of a permanent nature filled. Of these there were 22: —

BUSINESS POSITIONS

Banking Houses	2
Clothing (wholesale) Houses	2
Manufacturing concerns	5
Philippine service (Department of Weights and Measures)	1
Publishing Houses	4
Secretaries	4
Telephone Companies	4
Total	22
Total number of permanent positions filled	167

The table of teaching positions seems to show that colleges, private and endowed schools, and academies have heretofore made more use of the Office than public schools.

The following table shows the geographical distribution of the permanent positions filled: —

	Private or Endowed Schools.	Public Schools.	Academies.	Military Academies.	Normal Schools.	Colleges or Universities.	Scientific or Tech. Schools.	Superintendent of Schools.	Principals or Sub-Principals.	Tutors.	Companions.	Business Positions.	President of University.
Bahama	..	..	..	..	..	..	..	..	..	..	1	..	..
California	2	..	..	..	..	3	..	..	..	..	1	..	..
Connecticut	2	1	..	..	1	2	1	..	1	..	..	..	..
District of Columbia	1	..	..	..	..	..	..	..	..	1	..	..	..
Florida	..	..	..	..	..	..	..	..	..	1	..	..	..
Hawaii	..	..	..	..	..	..	..	..	1	..	..	..	..
Illinois	5	..	1	..	1	4	..	..	..	..	..	..	..
Kansas	..	..	..	..	..	1	..	..	..	..	..	..	..
Kentucky	..	1	1	..	..	1	..	..	..	..	..	..	..
Maine	..	..	..	..	..	3	..	..	1	..	..	..	..
Maryland	1	..	..	1	..	..	..	..	..	..	..	3	..
Massachusetts	5	6	4	..	1	12	3	3	6	2	..	7	..
Michigan	2	..	..	..	..	1	..	..	..	..	..	1	..
Mississippi	..	..	..	..	..	1	..	..	..	..	..	..	..
Missouri	..	1	1	1	..	2	..	..	..	..	..	2	..
New Hampshire	1	..	2	..	..	..	..	..	1	..	..	..	..
New Jersey	3	1	..	..	..	..	..	..	1	..	..	1	..
New York	2	1	1	1	1	4	..	..	..	1	..	7	..
North Carolina	..	..	..	..	..	1	..	..	..	..	..	..	..
Ohio	1	1	..	..	..	1	..	..	..	..	..	..	..
Pennsylvania	..	..	..	..	2	*6	..	..	1	1	..	..	..
Philippine Islands	..	..	..	..	..	..	..	..	..	..	..	1	..
South Carolina	..	..	..	..	..	..	..	..	..	1	..	..	..
Texas	..	1	..	..	..	..	..	..	..	..	..	..	..
Utah	..	1	..	..	..	..	..	..	..	..	..	..	..
Vermont	..	..	..	..	..	1	..	..	..	..	..	..	..
Virginia	..	..	..	..	..	1	..	..	..	..	..	..	..
Wisconsin	..	..	..	..	..	4	..	..	..	..	..	..	..
Wyoming	..	..	..	..	..	..	..	..	..	..	..	..	1
Europe	..	..	..	..	..	1	..	..	..	7	1	..	..
Totals	25	14	10	3	6	49	4	3	12	14	3	22	1

* Lecturer.

This table shows the demands on various Departments of the University for teachers in single subjects: —

Classics	11	Natural Science	1
English	16	Physics	4
German	4	Chemistry	5
Romance Languages	16	Biology	4
History	7	Zoölogy	1
Economics	1	Geology	2
Philosophy	2	Mineralogy	1
Education	2	Physiography	1
Mathematics	5		
General Science	4	Total	87

This table shows the number of men supplied to teach combined subjects: —

Classics, Ancient History	1	French, Latin	1
Classics, English, Athletics, Gymnastics	1	History, Government	1
Classics, English, Mathematics	1	Mathematics, General Science	1
Latin, English, German, History	1	Mathematics, Mechanical Drawing	1
English, History	1	Physics, Mathematics	1
English, Education	1	Physics, Chemistry	3
English, French	1	Physics, Natural Science	2
English, Geography	1	Biology, Physics	1
German, French	3	Physiography, General Science	1
German, French, Spanish	1	Total	24
		Grand total	111

The list on the next page shows the ways in which men have earned money during vacation and term-time. The records of temporary work are incomplete, but the men enumerated are known to have been employed. It is impossible to estimate the amount of money earned in temporary work: —

TEMPORARY

Boatman	1	Marketman	5
Bookkeeper	2	Monitor (Law School Exam.)	7
Canvassing	25	Musician	3
Canvassing Agent	1	Printer	1
Caretaker (house)	3	Proctor — distributing diplomas	1
Clerk	69	Reader aloud (in courses)	2
Distributing pamphlet	1	St. Louis Fair (chair-roller)	5
Driver (horse)	1	Salesman (Harvard Coöperative)	13
Engrosser	1	Secretary to Professor	3
Farmer	1	Settlement work	1
Farm (salesman of produce)	3	Singer (church)	2
Furnace care	2	Skating-rink (evenings)	1
Guard (Mrs. Gardner's Museum)	12	Stadium (numbering seats)	10
Guide (aside from authorized)	2	Stenographer	7
Hotel Bell-man	5	Summer Camp	4
" Clerk	1	Ticket-collector	3
" Entertainer	1	Tutor (family for summer)	13
" Night-watchman	1	Tutor (special subjects)	44
House (general help)	1	Typewriter	4
Lawn mower	1	Usher	4
Library attendant	1	Waiter	8
Manuscript corrector	1		

No sufficiently accurate record has been kept of the salaries to be of much value in making statistics. The records we have show a very wide range of salary; they seem to show that private and endowed schools pay the best salaries; and that public schools, especially to teachers without experience, pay better than colleges. The salaries of ninety positions, teaching and administrative, of which we have record, aggregate roughly one hundred thousand dollars ($100,000).

The records of places filled, as given in the tables above, do not include all the positions secured through the influence of the Office. What per cent. they do include is hard to tell. Few men think to inform the Office of positions they have secured. To almost every recommendation that was made by the Office direct to schools and teachers, an inquiry had later to be made to find out whether any of the candidates recommended were accepted. In the case of indirect recommendations — made to agencies for places about which the Office had only general information — no inquiry was made; and the Office has therefore record only of such places thus secured as by chance, or thoughtfulness of the successful applicant, came to its notice. The largest number of recommendations were made in this indirect way: and hereafter it will be the business of the Office to find out, if possible, how many of the men thus indirectly recommended succeeded in securing positions.

HENRY S. THOMPSON,
Secretary for Appointments.

ORDINARY DEGREES CONFERRED IN 1900–04.

	1900.	1901.	1902.	1903.	1904.
Bachelors of Arts	404	457	422	511	459
Bachelors of Arts out of course	15	26	32	42	38
Bachelors of Science	59	75	76	101	77
Bachelors of Science out of course	6	4	7	5	7
Bachelors of Divinity	5	2	5	4	7
Bachelors of Divinity out of course	0	0	1	1	1
Bachelors of Laws	126	136	146	157	169
Bachelors of Laws out of course	8	9	16	6	13
Bachelors of Agricultural Science	0	2	5	6	3
Doctors of Medicine	130	116	130	109	131
Doctors of Medicine out of course	0	4	1	3	4
Doctors of Dental Medicine	33	29	32	27	25
Doctors of Veterinary Medicine	7	6	0	0	0
Doctors of Veterinary Medicine out of course	0	1	1	0	0
Masters of Arts	125	119	110	117	157
Masters of Arts out of course	9	6	10	8	5
Masters of Science	1	7	8	6	2
Masters of Science out of course	0	3	0	1	0
Doctors of Philosophy	35	29	28	28	46
Doctors of Science	1	0	3	1	1
Totals	964	1031	1033	1133	1145

PUBLICATIONS OF THE MUSEUM OF COMPARATIVE ZOÖLOGY FOR THE ACADEMIC YEAR 1903–04.

Bulletin: —

Vol. XXXIX.

No. 8. Some Fishes from Australasia. By SAMUEL GARMAN. 15 pp. 5 Plates. August, 1903.

No. 9. Medusæ from the Maldive Islands. By HENRY B. BIGELOW. 27 pp. 9 Plates. April, 1904.

Vol. XL.

No. 7. Contributions from the Zoölogical Laboratory. No. 145. The Changes which occur in the Muscles of a Beetle, Thymalus marginicollis Chevr., during Metamorphosis. By ROBERT S. BREED. 68 pp. 7 Plates. October, 1903.

Vol. XLI.

No. 2. The Chimæroids (Chismopnea Raf., 1815: Holocephala Müll., 1834), especially Rhinochimæra and its Allies. By SAMUEL GARMAN. 30 pp. 15 Plates. March, 1904.

Vol. XLII.

No. 3. The Mountain Ranges of the Great Basin. By W. M. DAVIS. 51 pp. 7 Plates. September, 1903.

No. 4. Postglacial and Interglacial (?) Changes of Level at Cape Ann, Massachusetts. By R. S. TARR. With a note on the elevated Beaches. By J. B. WOODWORTH. 18 pp. 13 Plates. September, 1903.

No. 5. The Hurricane Fault in the Toquerville District, Utah. By ELLSWORTH HUNTINGTON and JAMES WALTER GOLDTHWAIT. 63 pp. 7 Plates. February, 1904.

Vol. XLIII.

No. 1. Reports on the Dredging Operations off the West Coast of Central America to the Galapagos, to the West Coast of Mexico, and in the Gulf of California, in Charge of Alexander Agassiz, carried on by the U. S. Fish Commission Steamer "Albatross," during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXIX. Reports on the Scientific Results of the Expedition to the Tropical Pacific, 1899–1900. VI. Reports on the Cephalopoda. By WILLIAM E. HOYLE. 71 pp. 12 Plates. March, 1904.

Vol. XLIV.

The Stone Reefs of Brazil, their Geological and Geographical Relations, with a Chapter on the Coral Reefs. By JOHN CASPER BRANNER. 285 pp. 91 Plates. May, 1904.

Vol. XLV.

No. 1. Contributions from the Zoölogical Laboratory. No. 148. The Anatomy of Hemiurus crenatus (Rud.) Lühe, an appendiculate Trematode. By CLARENCE H. LANDER. 28 pp. 4 Plates. January, 1904.

No. 2. Contributions from the Zoölogical Laboratory. No. 150. The Development of the Mesonephros and the Müllerian Ducts in Amphibia. By ROBERT W. HALL. 97 pp. 8 Plates. June, 1904.

No. 3. Contributions from the Zoölogical Laboratory. No. 153. The Optic Reflex Apparatus of Vertebrates for Short-circuit Transmission of Motor Reflexes through Reissner's Fibre; its Morphology, Ontogeny, Phylogeny, and Function. — Part I. The Fish-like Vertebrates. By PORTER EDWARD SARGENT. 132 pp. 11 Plates. July, 1904.

Vol. XLVI.

No. 1. Descriptions of Bolca Fishes. By C. R. EASTMAN. 36 pp. 2 Plates. June, 1904.

Memoirs: —

Vol. XXIX.

The Coral Reefs of the Maldives. By ALEXANDER AGASSIZ. 25, 168 pp. 82 Plates. December, 1903.

Vol. XXX.

No. 1. Reports on an Exploration off the West Coasts of Mexico, Central and South America, and off the Galapagos Islands, in Charge of Alexander Agassiz, by the U. S. Fish Commission Steamer "Albatross," during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXX. The Sponges. By H. V. WILSON. 164 pp. 26 Plates. July, 1904.

Report: —

1902–03. 35 pp. December, 1903.

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Amounts brought forward,	$853,294.19	$35,347.22

MEDICAL SCHOOL.

Calvin and Lucy Ellis (part),		
40,000 Northern Pacific-Great Northern Joint 4's (C. B. & Q. collateral) of 1921,	26,585.00	1,600.00
Real Estate in Boston,	22,500.00	311.36
Real Estate in Eden, Bar Harbor, Maine,	10,000.00	
George C. Shattuck (part),		
$25,000 Kansas City, Fort Scott & Memphis R. R. Cons. M. 6's of 1928 ($203.70 deducted from income for sinking premium),	29,888.90	1,296.30

OBSERVATORY.

Advancement of Astronomical Science (1902) (part),		
15 shares Calumet & Hecla Mining Co.,	9,000.00	600.00
Mortgage Note,	3,000.00	180.00
5,000 Northern Pacific-Great Northern Joint 4's (C. B. & Q. collateral) of 1921,	4,800.00	200.00

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

Peabody Building (part),	$54,000 Kansas & Missouri R. R. 1st M. 5's of 1922,	11,512.72	622.32
Peabody Collection (part),		19,218.64	1,038.84
Peabody Professor (part),		19,218.64	1,038.84
Thaw (part) ($8.48 deducted from income for sinking premium),			
$20,000 Girard Point Storage Co. 1st M. 3½'s of 1940,		20,305.10	691.52

BUSSEY INSTITUTION.

Woodland Hill (part),		
Laboratory of Comparative Pathology building,	14,736.84	

ARNOLD ARBORETUM.

Robert Charles Billings,		
$5,000 Butte Water Co. 1st M. 5's of 1921,	4,000.00	250.00

SPECIAL FUNDS.

Bussey Trust,		
Real Estate,	392,710.18	15,981.86
Robert Troup Paine (accumulating) ($178.55 deducted from income for sinking premiums),		
$38,000 Massachusetts 3½'s of 1913,	39,375.13	1,185.25
5,000 " " 1916,	5,250.25	154.15
4,000 " " 1935,	4,236.22	66.22
3,000 " " 1938,	3,307.08	95.83
Fund of the **Class of 1834,**		
Policy of Mass. Hospital Life Insurance Co.,	1,000.00	40.00
Amounts carried forward,	$1,493,938.89	$60,699.71

Amounts brought forward, ...	$1,493,938.89	$60,699.71
Fund of the **Class of 1844,**		
Policy of Mass. Hospital Life Insurance Co., . . .	6,500.00	260.00
Fund of the **Class of 1853,**		
Policy of Mass. Hospital Life Insurance Co., . . .	3,725.00	149.00
Charles L. Hancock Bequest (part),		
Real Estate in Chelsea, ...	420.50	
Calvin and **Lucy Ellis** Aid (part),		
Real Estate in Boston, ...	22,500.00	311.36
Price Greenleaf. ($869.90 deducted from income for sinking premiums.) The total amount of this Fund is $788,865.31, which is invested as follows: —		
$3,000 Chicago, Burl. & Quincy R. R. 4's of 1922,	2,880.00	120.00
360 shares Boston & Lowell R. R., ...	46,800.00	2,880.00
317 " Boston & Maine R. R., ...	48,724.00	2,219.00
237 " Fitchburg R. R., preferred, ...	22,306.27	1,185.00
355 " Old Colony "	63,190.00	2,485.00
23 " N. Y. Central & Hudson River R. R., .	2,635.00	115.00
290 " Northern R. R. (N. H.), ...	29,290.00	1,885.00
52 " West End Street Railway, preferred, .	4,305.56	208.00
34 " Central Vermont R'y, ...	428.72	
707 " Pennsylvania R. R., ...	51,856.04	2,121.00
15 " Boston Real Estate Trust, ...	20,703.75	675.00
100 " Paddock Building Trust, ...	10,000.00	350.00
$70,000 American Bell Telephone Co. 4's of 1908,	70,515.80	2,671.05
70,000 Broadway Realty Co. Purchase money 1st M. 5's of 1926, ...	74,144.68	3,315.78
24,000 Burl. & Mo. R. R. R. in Neb. non ex. 6's of 1918, ...	24,205.55	1,028.86
43,500 Central Vermont R'y 1st M. 4's of 1920, .	37,845.00	1,740.00
50,000 Chic. Junc. R'ys & Union Stock Yards 5's of 1915, ...	47,000.00	2,500.00
8,000 Kansas City, Fort Scott & Memphis cons. M. 6's of 1928, ...	9,712.95	408.63
50,000 Metropolitan Tel. & Tel. Co. 1st M. 5's of 1918, ...	49,750.00	2,500.00
25,000 New England Tel. & Tel. Co. 6's of 1906, .	25,148.43	1,425.78
34,000 New York Central & Hudson River R. R. (Michigan Central Collateral) 3½'s of 1998,	28,412.10	1,190.00
32,000 Northern Pacific–Great Northern Joint 4's (C. B. & Q. collateral) of 1921, ...	19,993.55	1,280.00
50,000 Union Pacific R.R. 1st M. & L.G. 4's of 1947,	44,625.00	2,000.00
50,000 Note of Massachusetts Cotton Mills, . . .	50,000.00	2,798.61
Cash in City Trust Co., ...	4,392.91	69.36
George Smith Bequest (part),		
$13,000 Citizens Street R'y Co., Shelby County, Tennessee, Gold 6's of 1916, ...	14,369.33	
4,000 City of Commerce, Texas, Permanent Improvement 6's of 1921, ...	4,021.33	
Amounts carried forward, ...	$2,334,340.36	$98,591.14

Amounts brought forward, ...	$2,334,340.36	$98,591.14
George Smith Bequest (*continued*).		
$10,000 Du Quoin, Ill., Water Works Co. 6's of 1901, ...	1.00	
17,000 City of Ennis, Texas, Bridge and Street Improvement 6's of 1935, ...	17,090.67	
3,000 Grand River Township, Cass County, Missouri, Funding 5's of 1917, ...	3,075.83	
11,000 Jones County, Texas, Ref. Court House 5's of 1937, ...	10,622.63	
20,000 Laclede Gas Light Co. 5's of 1919, . . .	20,000.00	
4,000 Lampasas Co., Texas, Bridge 5's of 1910,	4,062.78	
500 City of Whitewright, Texas, Permanent Improvement 6's of 1914, ...	500.17	
32,000 United States Steel Corporation 5's of 1963,	24,000.00	
315 shares Boatmen's Bank of St. Louis, ...	70,875.00	
200 " Laclede Gas Light Co., preferred, . .	18,800.00	
480 " United States Steel Corporation, pref.,	26,400.00	
Totals, ...	$2,529,768.44	$98,591.14

The other Funds are invested as a whole. The general investments are stated in detail on pages 40, 41, 42, and 43 of this report. The usual summary of them, and of their income, is as follows:—

Investments.	Principal, Aug. 1, 1903.	Principal, July 31, 1904.	Income.
Notes, Mortgages, &c., ...	$1,659,000.00	$1,334,000.00	$79,574.22
Railroad Bonds, ...	5,270,059.35	5,853,823.19	228,714.69
Sundry Bonds, ...	1,623,406.48	1,827,982.44	71,257.07
Railroad Stocks, ...	617,550.17	805,375.17	37,121.83
Manufacturing and Telephone Stocks,	194,344.64	277,062.77	15,767.50
Real Estate Trust Stocks, ...	407,629.72	695,421.60	17,485.67
Real Estate, ...	2,796,354.66	2,305,087.56	138,648.31
Advances to **Bussey** Trust, ...	59,068.11	53,501.81	2,362.72
" " **Cowdin** Real Estate, .	2,152.94		
" " **Calvin & Lucy Ellis** Real Estate, ...		5.54	
" " Medical School Undertaking, ...	485,763.24	496,101.77	18,958.03
" " Observatory, ...	3,362.84	5,453.52	168.14
" " **Peabody** Museum of Am. Archaeology and Ethnology, ...	3,123.51	2,041.66	156.18
" " Botanic Department, . .	6,897.98	7,261.09	344.90
" " Dining Hall Association,	44,339.16	45,990.14	2,077.34
" " **Randall** Hall "	33,702.27	33,202.27	1,725.90
" " Classical Publication Fund of the Class of 1856,	615.72	1,177.12	30.78
" " Stadium, ...		57,932.73	745.12
" " Sundry Accounts, . . .	1,391.26	730.94	
Amounts carried forward, . .	$13,208,762.05	$13,802,151.32	$615,137.90

Investments.	Principal, Aug. 1, 1903.	Principal, July 31, 1904.	Interest.
Amounts brought forward, . .	$13,208,762.05	$13,802,151.32	$615,137.90
Term Bills due in October, ...	241,773.03	249,422.71	
" " overdue, ...	10,147.50	8,870.39	
Cash in Adams Trust Co., ...	47,260.22	10,478.31	803.83
" City Trust Co., ...	34.43		
" Equitable Trust Co., ...		105,938.41	938.41
" National Union Bank, . . .	62,090.35	15,413.69	933.10
" Old Boston National Bank, .	13,922.86	4,253.87	1,764.14
" Old Colony Trust Co., . . .			100.05
" hands of Bursar, ...	21,508.17	29,455.96	
Totals of general investments, .	$13,605,498.61	$14,225,984.66	$619,677.43
Totals of special investments, .	2,258,023.09	2,529,768.44	98,591.14
Amounts, ...	$15,863,521.70	$16,755,753.10	$718,268.57

At the meeting of the Corporation, October 26, 1891, it was "*Voted*, that the sum of $23,341.97 being the net gain from sales of bonds at a profit, heretofore credited to the account of Railroad Bond Premiums, be transferred as of July 31, 1891, to a new account to be called 'Gains and Losses for General Investments,' which account shall be credited with all gains and charged with all losses hereafter arising from sales of property belonging to the general investments. As this account belongs pro rata to all the Funds sharing in general investments it is not to be allowed interest when its balance is on the credit side nor to be charged with interest when its balance is on the debit side."

The gains arising from the sale during the year of certain railroad bonds, amounting to $1,193.05, were credited to "Gains and Losses for General Investments" in accordance with the terms of the vote of October 26, 1891. The balance to the credit of that account, July 31, 1904, was $585,643.23.

The sums of $9,881.95 and $1,260.63 have been deducted from the income of all bonds bought at a premium and held respectively as general and special investments, and have been applied, as the fair yearly repayment from income, towards sinking the whole of these premiums at the maturity of the bonds.

The net income of the general investments has been divided at the rate of $4\frac{77}{100}$ per cent. among the Funds to which they belong (excluding "Gains and Losses for General Investments"), after allowing special rates to certain temporary Funds and balances. The fraction, which was $656.05, has been placed as usual to the credit of the University account.

The rate of income compared with that for 1902–03 shows an increase of nine one-hundredths of one per cent.

The following table shows the income available for the departments dependent upon the College proper, and the expenditures in those departments; the income and the expenditure for the Lawrence Scientific School and the College being combined in the College account: —

Interest on Funds for			
University Salaries and Expenses,		$51,547.77	
Library Salaries and Expenses (not books),		29,550.84	
College Salaries and Expenses,		86,521.25	
Receipts from students,		599,280.92	
Sundry receipts, as follows: —			
Gifts for Salaries and Expenses,	$5,086.05		
Use of buildings (not University Houses and Lands),	4,020.00		
Sales of catalogues, pamphlets, &c.,	5,293.81		
Sundry receipts and repayments,	3,421.28	17,821.14	$784,721.92
Expended for			
University Salaries and Expenses,		$100,318.55	
Library Salaries and Expenses (not books),		46,303.15	
College Expenses,		140,336.93	
College Salaries,		451,797.35	
Gymnasium Expenses,		8,652.53	
Expenses on College Public buildings, which are not valued in the Treasurer's books,		34,564.95	
Expenses on College Dormitories, which are not valued in the Treasurer's books,		30,191.52	
Scholarships, paid by the University,		3,300.00	$815,464.98
Balance, showing the deficit for the year, which has been charged to the Insurance and Guaranty Fund,			$30,743.06

The following table shows the results for the years 1903–04 and 1902–03 in the several Departments of the University.

Departments.	1903–04.		1902–03.	
	Surplus.	Deficit.	Surplus.	Deficit.
University, College, Lawrence Scientific School, and Library,		$30,743.06		$40,403.07
Divinity School,		8,555.25		14,526.93
Law School,	$44,674.21		$31,522.18	
Medical School,		15,759.08		13,868.73
Dental School,	565.28			2,124.80
Bussey Institution,	806.70		918.37	
Museum of Comparative Zoölogy,		879.67		5,336.38
Observatory,		2,090.68		440.99
Peabody Museum of American Archaeology and Ethnology,	1,081.85			844.91

Gifts have been received during the year as follows:—

GIFTS TO FORM NEW FUNDS OR TO INCREASE OLD ONES.

For the Arnold Arboretum Fund, from

Mrs. George R. Agassiz	$200
Caleb Chase	100
Henry P. Curtis	10
Harold C. Ernst	10
Robert H. Gardiner	25
B. F. Keith	120
Massachusetts Society for Promoting Agriculture	500
A. Shuman	100
	$1,065

From the Trustee under the will of Joseph Baker, $7,400, the remainder of Mr. Baker's bequest of $15,000, less expenses amounting to $100, the income thereof to be applied to the "encouragement and promotion of theological education."

For establishing "a fund for the annual provision of band-music for occasions during the academic year when it would promote the dignity and beauty of public ceremonies, and add to their charm and interest," $1,143 from

Mrs. Boylston A. Beal.
Miss M. L. Blake.
Mrs. Prescott Hall Butler.
Mrs. George B. Chase.
Mrs. S. V. R. Crosby.
Mrs. Howard Elliott.
Mrs. Walter Scott Fitz.
Mrs. Arthur W. Foote.
Mrs. William H. Forbes.
Mrs. F. P. Forster.
Mrs. Francis C. Foster.
Mrs. R. W. Gilder.
Mrs. William W. Goodwin.
Mrs. W. H. Gratwick.
Mrs. W. H. Gratwick, Jr.
Mrs. F. R. Halsey.
Mrs. William Hooper.
Miss K. Horsford.
Mrs. J. E. Hudson.
Mrs. G. M. Lane.
Mrs. John Lawrence.
Mrs. Morris Longstreth.
Mrs. T. K. Lothrop.
Miss Mabel Lyman.
Mrs. Charles MacVeagh.
Mrs. Franklin MacVeagh.
Mrs. J. P. Morgan, Jr.
Miss E. L. Paine.
Mrs. R. B. Potter.
Mrs. R. S. Russell.
Mrs. Winthrop Sargent.
Miss Louisa L. Schuyler.
Mrs. Q. A. Shaw, Jr.
Mrs. R. G. Shaw.
Mrs. E. R. Thayer.
Mrs. T. W. Ward.
Miss Emily Winthrop.

From the estate of Robert Charles Billings, $15,000, awarded by the surviving executor of Mr. Billings's will; $12,500 thereof to constitute a "permanent fund for the Arnold Arboretum, to be called the Robert Charles Billings

Fund, the income only to be used for the general purposes of the said Arnold Arboretum"; and $2,500 to constitute a permanent fund "to be called the Robert Charles Billings Fund for prizes for the Divinity School, the income only to be used for prizes, to be called the Billings Prizes, and awarded by vote of the Faculty of Divinity to Students of the Divinity School for improvement in pulpit delivery."

From the estate of Francis Boott, $10,000, his bequest for an annual prize of one hundred dollars, to be given to the writer of the best composition in concerted vocal music, for the performance of the successful essay, and for music, and books of musical literature.

From the estate of Samuel A. Borden, $170 additional, on account of his bequest of $2,000 for establishing the Borden Scholarship.

From Mrs. W. S. Bullard, $10, to be added to the Dental School Endowment.

From an anonymous giver, $1,500, to be added to the principal of the Fund for the Advancement of Astronomical Science (1902).

From the Class of 1856, its class fund of $7,500, to be held as the "Fund of the Class of 1856" until the death of the last surviving member of the Class, and then to be transferred to the Class Subscription Fund.

From Emile F. Williams, $100, to be added to the principal of the Asa Gray Memorial Fund.

From Mrs. Arthur W. Blake, $300, to be added to the principal of the F. B. Greenough Fund for Surgical Research.

From Robert Sever Hale and Richard Walden Hale, $5,000, for a fund "to be known as the George Silsbee and Ellen Sever Hale Fund, the income only to be expended either in the purchase of books for the library or in publication of the results of study or research in any department of the University, including Radcliffe College."

From William B. Rice, $35, to be added to the principal of the Lectures on Political Economy Fund.

Through H. A. Lamb, $1,003.40, gifts received by him from various persons, for the purpose of establishing a fund for the purchase of music, books, musical instruments, etc., for the Department of Music.

From Arthur T. Lyman, $25,000, for establishing a permanent fund, the income of which "may be entirely unrestricted in its uses for the general benefit of Harvard College at the discretion of the Corporation."

From the estate of Henry S. Nourse, $144.42 in cash and real estate and securities valued at $44,527.03, his residuary bequest, "to accumulate by addition of interest to the principal a fund of at least fifty thousand dollars ($50,000) which may bear my name and at the option of the said President and Fellows may constitute a permanent fund devoted to the needs of some department of the University or may be expended in the erection of a building for University use."

From patients of the late Dr. Joseph P. Oliver, $8,500, to found the Joseph Pearson Oliver Scholarship in the Medical School.

From the Harvard Club of Philadelphia, $10,100, for establishing "The Philadelphia Scholarship." The income thereof is to be "paid each year to a deserving Freshman or member of the first year class of the Lawrence Scientific School from Philadelphia or vicinity," or if there be no satisfactory applicant, it "may be used in aid of other deserving students, or added to the principal fund."

An unrestricted gift of six shares of the Harvard Riverside Associates stock, from

Lewis Cabot, one share	$1,000
Mrs. Alice Forbes Cary, one share	1,000
Thomas Nelson Proctor, "	1,000
Denman W. Ross, two shares	2,000
William S. Spaulding, one share	1,000
	$6,000

For the Medical School Undertaking (in addition to gifts, amounting to $608,087, which are separately entered among "Gifts for Immediate Use"), as follows: —

From John D. Rockefeller, $163,791.13, his final payment on account of his offer of $1,000,000 for new buildings and endowments.

From Robert Bacon, $60,000, to be added to his previous gift of $25,000, the whole sum to constitute a fund, the income of which is to be used for the care and increase of the medical and surgical collections.

From the estate of George Smith, $43,731.92 in cash, and securities valued at $213,818.74, on account of his residuary bequest, which, after accumulation to $450,000, is to be used for building three dormitories, to be named respectively James Smith Hall, Persis Smith Hall, and George Smith Hall.

From the estate of Miss Elizabeth R. Swift, $1,000, the final payment on account of her bequest of $3,000 for establishing the Swift Scholarship in Harvard College.

From the estate of David Ames Wells, $944.41, the final payment on account of his residuary bequest for establishing a prize and publication fund.

From the estate of Jerome Wheelock, $10, the first of a series of yearly payments of that amount, to be made by the trustee under his will, as modified and amended by compromise, for establishing the Jerome Wheelock Fund of $100,000; the income only thereof to be "used and appropriated as shall best serve the interests of said University," but Mr. Wheelock suggested that a chair be strengthened or formed for a more thorough research in geology.

From the estate of Charles L. B. Whitney, $1,194.50 additional, on account of his bequest for the purpose of founding the Mary L. Whitney Scholarship for the benefit of "some needy member of the Freshman Class."

From Miss Maria Whitney, $5,000, for establishing the Josiah Dwight Whitney Fund. From the annual income thereof the sum of $200 is to be "used for a scholarship, — or for two scholarships of $100 each — to aid meritorious students in the study of field geology or geography in the summer months, — preferably in the mountain region of the Western United States." The remaining income is to be used to aid meritorious students in making geographical excursions.

The total amount of these gifts for capital account is $633,988.55, as is also stated on page 36 of this report.

GIFTS FOR IMMEDIATE USE.

From several recently graduated College classes, $205 toward the cost of the fence built for the purpose of insuring better control of the College Yard on Commencement Day.

Through Thomas Dwight, $100 additional, for defraying expenses connected with original investigation in the Department of Anatomy.

From an anonymous giver, $100, for wax embryological models.

From an anonymous giver, $100, to be used in the same way as the income of Scholarship funds is used.

From an anonymous giver, $175, to provide for opening the Germanic Museum on Sundays.

From an anonymous giver, $75, for the benefit of some deserving student in the Law School.

From an anonymous giver, $1,200, for the publication of researches from the Sears Pathological Laboratory.

From an anonymous giver, $2,500, to be expended under the direction of Professor Peabody for the Department of the Ethics of the Social Questions.

From an anonymous giver, $25, an unrestricted gift.

From Francis Skinner, $5,000, to be added to the gifts for the completion of the Arnold Arboretum.

From Mrs. C. M. Barnard, $600, her twenty-first yearly gift for the Warren H. Cudworth Scholarships.

For the Bermuda Biological Station for Research, from

Theodore Lyman	$200
John E. Thayer	500
	$700

From John C. Phillips, $300, for the purchase of reprints from the published contributions of the Bermuda Biological Station for Research, or for the general expenses of that station.

From J. A. L. Blake, $100, to be added to the income of the Caroline Brewer Croft Fund for 1903–04.

From the Boston Committee on the Emerson Centenary, $226, for an Emerson tablet in the Divinity School Chapel.

For the Botanic Garden and Botanic Museum, from

Anonymous	$500
Anonymous	1,000
Arthur F. Estabrook	1,000
	$2,500

From Miss Abby A. Bradley, $600, to be added to the income of the William L. Bradley Fund.

From Miss Katherine E. Bullard and William N. Bullard, $500 each, their second gifts of the same amount to be used under the direction of the Shattuck Professor of Pathological Anatomy, with the approval of the President and Fellows, for the purpose of advancing the knowledge of the pathology of the nervous system.

From George L. Cheney, $357, repayment with interest of a scholarship of $150, received by him while a student in the Law School.

For the salary of an Instructor in Anthropology, from

Clarence J. Blake	$50
Trustees under the will of Mrs. Mary Hemenway	200
Robert C. Winthrop, Jr.	50
	$300

For the salary of an Instructor in the Semitic Department, from

Anonymous	$100
Anonymous	50
Anonymous	50
Anonymous	25
George V. Leverett	275
James Loeb	500
	$1,000

For the use of the Dental School during 1903–04, from officers of instruction in the School, as follows:—

Lawrence W. Baker	$66	Amount brought forward	$1,631
Edwin C. Blaisdell	50	Elbridge D. King	25
Waldo E. Boardman	75	Elmer J. Marston	25
Charles A. Brackett	375	Leslie H. Naylor	25
Edward Cornelius Briggs	250	H. S. Parsons	50
A. Harriman St. Clair Chase	40	Joseph T. Paul	50
Ernest H. Chute	50	C. Ernest Perkins	50
William P. Cooke	200	William H. Potter	200
H. DeW. Cross	25	Charles W. Rodgers	25
J. D. Dickinson	50	M. F. Rogers	25
John W. Dickinson	25	Harry B. Shuman	25
Forrest G. Eddy	75	Eugene H. Smith	500
Samuel T. Elliott	25	D. F. Spinney	25
Edwin L. Farrington	50	William D. Squarebrigs	25
J. Austin Furfey	50	W. H. Starratt	15
Harry L. Grant	50	Arthur H. Stoddard	50
A. I. Hadley	50	Ezra Fletcher Taft	50
F. H. Harding	50	Evan P. Wentworth	37.50
Ernest J. Hart	25	Julius G. W. Werner	25
Thomas B. Hayden	50	Robert Whitehill	25
Amount carried forward	$1,631		$2,883.50

From an anonymous giver, $10, to be added to the gifts for building for the Dental School.

For supplies for the Surgical department of the Dental School, $54, from

Samuel Appleton.
William A. Bancroft.
G. W. Becker.
S. Parker Brewer.
Caleb Chase.
Cumner, Jones & Co.
Edward H. Eldredge.
A friend.
J. B. Forsyth.
Jordan, Marsh & Co.
McKenney & Waterbury Co.
J. Morse.
Samuel Shuman.
A. Stowell & Co., Inc.

From Roderick Stebbins, $50, for the renovation of the chapel in Divinity Hall.

From Mrs. Henry Draper, of New York, an additional sum of $10,000, to be expended by the Director of the Observatory in prosecuting the researches in the photography of stellar spectra, with which the late Dr. Henry Draper's name is honorably associated.

From an anonymous giver, $500, to be used for scholarships in the Department of Education.

For building Emerson Hall, from

W. B. Buck	$5
Andrew Carnegie	12,000
Mrs. Edward Cary	3,000
Miss Lilian Freeman Clark	5
Emerson Class in Elmira, N.Y.	7
A friend	100
Mrs. David P. Kimball	10,000
Miss Alice M. Longfellow	1,000
Amount carried forward	$26,117
Amount brought forward	$26,117
Mr. & Mrs. Nelson Robinson	5,000
William M. Salter	5
J. M. Sears	1,000
George F. Weld	5
Carleton Ames Wheeler	10
	$32,137
Interest on deposit	117.53
	$32,254.53

From the Department of English, $75, for a lecture before the University.

From an anonymous giver, $30, for research work in Experimental Phonetics.

From George P. Gardner, $100, for the equipment of the Geological exhibition rooms.

From John L. Gardner, $200, for lantern slides to be made from photographs in the collection of the United States Geological Survey, and to be added to the Gardner collection of photographs in the Department of Geology.

TREASURER'S STATEMENT

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1904

TREASURER'S STATEMENT.

To the Board of Overseers of Harvard College: —

The Treasurer of the College submits the Annual Statement of the financial affairs of the University, for the year ending July 31, 1904, in the usual form.

The Funds separately invested, with the income thereof, are as follows: —

UNIVERSITY.	Principal, July 31, 1904.	Income.
George B. Dorr,		
University Houses and Lands, ...	$115,966.56	$4,927.20
George Draper,		
University Houses and Lands, ...	48,458.50	2,058.91
John C. Gray,		
University Houses and Lands, ...	25,000.00	1,062.20
Walter Hastings,		
Real Estate, Sacramento St., Cambridge, ...	20,000.00	1,214.51
Insurance and Guaranty,		
University Houses and Lands, ...	57,142.17	3,734.08
Real Estate, Lucas St., Boston, ...	4,000.00	
Joseph Lee,		
University Houses and Lands, ...	10,000.00	424.88
Henry S. Nourse (part),		
32 shares American Sugar Refining Co., ...	3,936.00	112.00
25 “ Brookside Mills, ...	2,500.00	87.50
30 “ Lanett Cotton Mills, ...	3,000.00	90.00
40 “ Missouri Zinc Fields Co., ...	120.00	
80 “ The National Land & Improvement Co. of Colorado, ...	1.00	
21 “ Pennsylvania Steel Co., preferred, . . .	1,260.00	73.50
3 “ “ “ “ common, . . .	3.00	
15 “ Western Tel. & Tel. Co., preferred, . .	1,320.00	
45 “ “ “ “ “ “ common, . . .	540.00	
25 “ United States Steel Corporation, preferred (sold during year), ...		43.75
Mortgage Notes, ...	13,900.00	410.78
Fairbanks Estate (sold during year), ...		10.00
Francis E. Parker,		
University Houses and Lands, ...	113,817.44	4,835.89
Amounts carried forward, ...	$420,964.67	$19,085.20

Amounts brought forward, ...	$420,964.67	$19,085.20
Riverside Fund,		
6 shares Harvard Riverside Associates, ...	6,000.00	
Henry Villard (part),		
University Houses and Lands, ...	48,952.37	773.68
William F. Weld,		
University Houses and Lands, ...	100,000.00	4,248.81

COLLEGE.

T. Jefferson Coolidge, for Research in Physics,		
625 shares Massachusetts Electric Companies, pref.,	57,500.00	2,500.00
Eaton Professorship of the Science of Government,		
Mortgages on real estate in New York City, . . .	84,000.00	3,946.87
Arthur T. Lyman Fund,		
Note of Boston Manufacturing Co., ...	25,000.00	
Charles Eliot Norton Fellowship,		
$15,000 Northern Pacific–Great Northern Joint 4's (C. B. & Q. collateral) of 1921, ...	14,100.00	600.00
George Foster Peabody Scholarship,		
$6,000 Mexican Coal & Coke Co. 1st M., S. F. 5's of 1926, ...	4,800.00	300.00
Jonathan Phillips's Gift,		
$10,000 City of Boston 3½'s of 1920, ...	10,000.00	350.00
Professorship of Hygiene (part),		
Policy of Mass. Hospital Life Insurance Co., . .	5,000.00	200.00
$16,000 Northern Pacific–Great Northern Joint 4's (C. B. & Q. collateral) of 1921, ...	15,681.85	640.00
Scholarship of the **Class of 1883,**		
$5,000 Brookline Gas Light Co. Gen'l M. 5's of 1913,	5,000.00	250.00
Dunlap Smith Scholarship,		
$5,000 Metropolitan West Side Elevated R. R. Extension M. 4's of 1938, ...	4,700.00	200.00
Stoughton Scholarship (part),		
Real Estate in Dorchester, ...	1,294.30	100.00
Wales Professorship of Sanskrit,		
Real Estate, Cornhill, Boston, ...	40,000.00	1,675.50
Samuel Ward's Gift (part),		
Ward's (Bumkin) Island, Boston Harbor, . . .	1.00	
David Ames Wells (part),		
Real Estate in Brooklyn, New York, ...	2,500.00	177.16
11 shares Walter A. Wood M. & R. Machine Co., .	550.00	

LIBRARY.

Ichabod Tucker (part),		
Policy of Mass. Hospital Life Insurance Co., . . .	5,000.00	200.00

LAW SCHOOL.

James Barr Ames Prize (part),		
Personal Note, ...	2,250.00	100.00
Amounts carried forward, ...	$853,294.19	$35,347.22

From William Amory Gardner, his second gift of $10,000 towards the construction of a new University Library Building.

For lectures by foreign geographers before students in the Department of Geology and Geography, from

Mrs. William D. Boardman	$25
George G. Kennedy	175
	$200

For scholarships in Summer field courses in Geology, from

George C. Buell	$100
A friend of the Department of Geology and Geography	200
" " " " "	100
" " " " "	100
" " " " "	100
	$600

For the Gray Herbarium, from

R. L. Agassiz	$10
J. B. Ames	10
Miss Mary S. Ames	10
Anonymous	500
Anonymous	500
Anonymous	300
Anonymous	50
Anonymous	10
Anonymous	25
Howard Payson Arnold	25
Edwin F. Atkins	25
Miss Mary F. Bartlett	20
Walter C. Baylies	10
Thomas P. Beal	10
Mrs. Arthur W. Blake	10
William P. Blake	10
Miss Mary E. Blatchford	10
James C. Braman	5
Edward M. Brewer	5
William Brewster	10
Addison Brown	10
Harold Haskell Brown	10
Stephen Bullard	10
Mrs. William S. Bullard	10
H. D. Chapin	10
Mrs. B. P. Cheney, Sr.	50
Charles F. Choate	10
Miss Cora H. Clarke	10
Miss Louise F. Coburn	10
Miss Helen Collamore	10
Amount carried forward	$1,695
Amount brought forward	$1,695
George G. Crocker	10
Mrs. Charles A. Cummings	10
Charles P. Curtis	10
Henry P. Curtis	10
Louis Curtis	10
Mrs. Abram E. Cutter	10
Samuel B. Dana	10
Frank A. Day	25
Walter Deane	15
George B. Dorr	10
Mrs. Herbert Dumaresq	10
Mrs. J. W. Elliot	10
William Endicott, Jr.	25
C. F. Fairbanks	10
J. S. Fay, Jr.	20
Mrs. J. N. Fiske	10
S. W. Fletcher	10
Miss Amy Folsom	10
Mrs. William H. Forbes	10
Francis A. Foster	10
Francis C. Foster	10
Mrs. Francis C. Foster	10
Miss Harriet E. Freeman	10
Miss C. A. French	10
A friend	25
Robert H. Gardiner	10
George A. Goddard	10
Miss A. M. Goodwin	10
Mrs. H. S. Grew	10
Amount carried forward	$2,045

Amount brought forward	$2,045
R. C. H.	20
George W. Hammond	10
Mrs. George W. Hammond	10
E. B. Haskell	10
John C. Haynes	10
Augustus Hemenway	10
Mrs. Augustus Hemenway	10
Miss Clara Hemenway	10
Miss A. P. Henchman	10
J. P. B. Henshaw	10
H. L. Higginson	10
T. W. Higginson	5
William H. Hill	10
Miss Rose Hollingsworth	5
Miss Katharine Horsford	25
Clement S. Houghton	10
Henry S. Howe	10
Charles W. Hubbard	10
Arthur Hunnewell	10
Henry S. Hunnewell	10
Walter Hunnewell	10
Edward W. Hutchins	10
Mrs. P. T. Jackson	10
Bernard Jenney	10
Edward C. Johnson	10
G. G. Kennedy	500
Mrs. Henry P. Kidder	10
David P. Kimball	10
Mrs. David P. Kimball	10
Henry H. Kimball	10
Lemuel C. Kimball	10
The Misses Kimball	10
Mrs. Harriet M. Laughlin	10
George C. Lee	10
Joseph R. Leeson	200
George V. Leverett	25
Mrs. George Linder	10
Mrs. Mary E. Lodge	15
Mr. & Mrs. Augustus P. Loring	20
Miss Katharine P. Loring	20
Arthur T. Lyman	10
Haslett McKim	10
Miss E. F. Mason	10
Miss Susan Minns	25
Mrs. Samuel T. Morse	20
William A. Munroe	10
Grenville H. Norcross	10
Mrs. Otis Norcross	10
Amount carried forward	$3,285

Amount brought forward	$3,285
Mrs. Otis Norcross, Jr.	10
Miss Emily L. Osgood	10
Mrs. Henrietta Page	5
James L. Paine	10
Frank E. Peabody	10
F. H. Peabody	500
Miss M. R. Peabody	10
Edward C. Perkins	10
Mrs. J. C. Phillips	10
Henry Pickering	10
Mrs. Henry Pickering	10
Mrs. Dudley L. Pickman	20
David Pingree	15
Laban Pratt	10
Thomas E. Proctor	20
Mr. & Mrs. George Putnam	20
Miss Sarah E. Read	10
George E. Richards	10
S. W. Rodman	10
Mrs. M. Denman Ross	10
Mrs. Waldo O. Ross	10
J. E. Rothwell	10
Mrs. R. S. Russell	10
Timothy T. Sawyer	10
George O. Sears	10
Mrs. K. W. Sears	10
Francis Shaw	10
Mrs. G. H. Shaw	20
Francis Skinner	25
Francis Skinner, Jr.	10
F. P. Sprague	10
Mrs. S. H. Swan	5
I. Homer Sweetser	10
John E. Thayer	100
Charles H. Tweed	10
Benjamin Vaughan	10
Miss Cornelia Warren	10
B. M. Watson	10
F. G. Webster	25
Mrs. F. G. Webster	25
Mrs. Charles W. Welch	10
Mrs. C. T. White	10
George R. White	500
S. B. Whiting	10
George Wigglesworth	10
Miss Adelia C. Williams	10
John D. Williams	20
Moses Williams	150
Amount carried forward,	$5,065

Amount brought forward . .	$5,065
Ralph B. Williams	100
A Resident of Winchester, Mass.	10
Samuel H. Winkley	10
Robert Winsor	25
Amount carried forward . .	$5,210
Amount brought forward . .	$5,210
Edward S. Wood	10
Mrs. Charlotte F. Woodman . .	10
Miss Mary Woodman	10
John G. Wright	10
	$5,250

From the Harvard Club of Buffalo, $200, its first yearly gift for the maintenance of the scholarship of the Harvard Club of Buffalo.

From Miss Charlotte Hedge, $200, for a tablet in the chapel of Divinity Hall, in memory of her father, Professor Frederic Henry Hedge.

From Augustus Hemenway, $1,000, for the purchase of a painting by Joseph Lindon Smith, for the Department of Architecture.

From the Committee on the Regulation of Athletic Sports, $20,000, to be added to its previous gifts for improvements upon, and additions to, The Soldier's Field, to be made by said Committee, with the approval of the Corporation.

From Gardiner M. Lane, $1,000, for lectures to be given, under the auspices of the Department of The Classics, by some well known scholar or literary man from abroad.

From the Lawrence Scientific School Association, $150, for a scholarship for 1904–05 in the Lawrence Scientific School, or in the Summer courses of 1904.

From James H. Hyde, $700, for the Fellowship of the Cercle Français de l'Université Harvard; $385, for preparing a catalogue of the Molière books in the Bôcher collection; $515 for binding books in said collection; and $12.35 for the French Department Library.

From Edward Mallinckrodt, $1,000, for providing additional shelf-room for books in the library in Boylston Hall, for adapting said library to the purposes of a reading room, and for the purchase of books to be used therein.

From Hiram Bingham, Jr., $75, for assistance in reclassifying the books on South American History in the College Library.

From Archibald Cary Coolidge, $400, for the services of an assistant and for cataloguing in the College Library.

From the Japan Club of Harvard University, $6, for binding books relating to Japan in the College Library.

For the purchase of books for the College Library, from

Francis Randall Appleton	$100
Lawrence Smith Butler, for books on Paris	50
Archibald Cary Coolidge	1,002.40
Archibald Cary Coolidge and Hiram Bingham, Jr., for books on South America	185
Harold J. Coolidge, for books on China	100
W. Bayard Cutting, Jr., for books on Florentine History	50
Dante Society, for books for the Dante Collection	150
Department of English, for books in English Literature	400
Edwin F. Gay	23
Ernest L. Gay	3.84
Henry S. Hunnewell	100
Adrian Iselin, for books on Swiss history	50
Edwin Stanton Mullins, for books on folk-lore	50
William Phillips, for books, maps, etc., on London	100
John Harvey Treat, for books on the Catacombs and Christian Antiquities of Italy	300
Beekman Winthrop, for books on the Philippine Islands	50
	$2,714.24

For the purchase of books on Dutch history for the College Library, from

Anonymous	$10
Anonymous	5
Edgar Huidekoper	20
	$35

For the purchase of early editions of the printed Bible, from

Robert Codman	$10
J. H. Gardiner	25
Charles Thorndike	20
Henry B. Washburn	2
	$57

For the purchase of books in English literature of the seventeenth and eighteenth centuries for the College Library, from

Walter C. Baylies	$25
C. W. Hanford	25
Herbert M. Sears	100
Mrs. Charles F. Sprague	150
Beekman Winthrop	50
	$350

For the purchase of books on Economics, from

T. Jefferson Coolidge	$50
Dwight F. Davis	25
George B. Leighton	50
	$125

From Mrs. Helen Bigelow Merriman and Roger Bigelow Merriman, $65.47, for the purchase of a collection of contemporary pamphlets on the Thirty Years' War.

From Mrs. George A. Nickerson, $200, her first yearly gift in memory of her husband, George Augustus Nickerson, A.B. 1876, LL.B. 1879, for the purchase of books on folk-lore, for the College Library.

From the Department of The Classics, $150, for the purchase of books for the Classical Library.

From George F. Fabyan, $25, for the purchase of books for the laboratory of Comparative Pathology.

Through John F. Moors, Treasurer, $446.43, to be expended under the direction of Professor Hanus for the library of the Department of Education.

From Percival Lowell, $70, for the library of the Embryological Laboratory.

From the Department of Mathematics, $15, for the purchase of books for the library of that department.

For the purchase of books and material for the Department of Political Economy, from

Robert Walton Goelet	$100
James Loeb	50
E. V. R. Thayer, Jr.	25
	$175

From the Society for Promoting Theological Education, $1,331.47, for the Library of the Divinity School.

From John McMahon, $300, for the purchase of books for the Law School Library.

For the purchase of books for the Museum of Comparative Zoölogy, from

William Brewster	$50
Louis Cabot	100
A. F. Estabrook	50
A. Hemenway	100
F. H. Peabody	100
Dudley L. Pickman	50
John E. Thayer	100
	$550

For the expenses of a medical expedition to Manila under the direction of Professor Councilman, from

Augustus Hemenway	$1,000
W. L. Richardson	1,000
J. C. Phillips	2,000
	$4,000

From the Massachusetts Society for Promoting Agriculture, $2,000, "to be expended at the Arnold Arboretum by the Director, to increase the knowledge of Trees."

For the Medical School Undertaking (in addition to gifts, amounting to $223,791.13, which are separately entered among "Gifts to form New Funds or to increase Old Ones"), as follows: —

From J. Pierpont Morgan, $400,000, on account of his offer for the erection of three Memorial Halls.

From Mrs. Collis P. Huntington, $102,087, on account of her offer for the erection of the Collis P. Huntington Laboratory.

From David Sears, $80,000 additional, on account of his offer for the erection of one of the buildings.

For "Land, Buildings, Equipment, and Endowments," from

Elliot C. Lee	$25,000
Miss Mary Lee Ware	1,000
	$26,000

For the Peabody Museum of American Archaeology and Ethnology, from

Mrs. N. E. Baylies	$25
Clarence B. Moore	500
Stephen Salisbury	200
	$725

From Thomas E. Proctor, $200, for the equipment for the course in Forestry in the Lawrence Scientific School.

From James J. Putnam and Moorfield Storey, trustees, $1,000, for certain salaries in the Medical School.

From an anonymous giver, $350, for the Ricardo Prize Scholarship for 1904–05.

From W. L. Richardson, $100, towards defraying expenses of research work in the laboratory of Pharmacology and Therapeutics.

From Mr. and Mrs. Nelson Robinson, $10,000 additional, for the equipment of Nelson Robinson Jr. Hall.

For the expenses of the Harvard University exhibit at the St. Louis Exposition, from

George E. Adams	$100
Henry Chalfant	50
Frederic A. Delano	100
Harvard Club of Western Pennsylvania	100
David P. Kimball	100
Robert T. Lincoln	100
A. N. McGeoch	50
Amount carried forward	$600
Amount brought forward	$600
George D. Markham	50
Nathaniel C. Nash	100
E. C. Pickering	55
E. C. Rowse	50
Augustus H. Vogel	25
Moses Williams	50
	$930

From Henry F. Sears, $1,550, to be added to his previous gifts for the Pathological Department Library.

From George R. Shaw, $100.22, for a microtome for the Arnold Arboretum.

From Edward M. Shepard, $50, for "any purpose of the University to which that sum will be helpful."

From the anonymous giver, who previously gave $500 to be used in the Department of Pathology in the Medical School for the expenses of an investigation of small pox, $500 additional for the same purpose.

For the South End House Fellowship, from

Julian L. Coolidge	$200
William A. Dupee	50
Edward W. Grew	25
Randolph C. Grew	100
Edward J. Holmes	100
John F. Moors	25
Reginald C. Robbins	50
	$550

From the Class of 1879, $100,000, towards the erection of the Stadium on The Soldier's Field.

From James Stillman, $25,000, to be added to his previous gift of $50,000 for the erection of a contagious ward in connection with the Stillman Infirmary.

From James J. Storrow, $2,000, for the purchase of equipment for Pierce Hall.

For the Surgical Laboratory, from

John S. Ames	$1,000
C. W. Amory	200
Francis Stanton Blake	100
George Baty Blake	100
Francis Bartlett	100
W. S. Bigelow	200
Henry C. Pierce	400
Mrs. H. N. Slater	100
	$2,200

For a tablet in the chapel of the Harvard Divinity School in memory of Professor Joseph Henry Thayer, from

T. Jefferson Coolidge	$25	Amount brought forward	$205
W. W. Fenn	10	George H. Palmer	5
George P. Fisher	5	Francis G. Peabody	20
Henry W. Foote	10	John W. Rice	2
George A. Gordon	20	William R. Richards	10
B. A. Jenkins	5	James H. Ropes	22
Arthur S. Johnson	50	William L. Ropes	50
Edward C. Johnson	25	H. Porter Smith	2
William Lawrence	20	Richard H. Stearns	25
Robert McDonald	5	Wallace N. Stearns	2
Alexander McKenzie	10	Charles F. Thwing	10
Edward C. Moore	10	A. S. Twombly	5
Robert S. Morison	10	Earl M. Wilbur	2
Amount carried forward	$205		$360

From Robert Winsor, $3,750, for the payment of a salary in the Medical School.

From John G. Wright, $500, for the Bacteriological laboratory, for photographic purposes.

The total amount of these gifts for immediate use is $875,575.21, as is also stated on page 34 of this report.

CHARLES F. ADAMS, 2D, *Treasurer.*

BOSTON, November 22, 1904.

ACCOUNTS

General Statement of Receipts and Disbursements for the year ending

INCOME.

Interest on notes, mortgages, advances, &c.,		$113,579.59
Interest on Policies Mass. Hospital Life Insurance Co.,		849.00
Interest on Bank Deposits.		
Deposit in Adams Trust Co.,	$803.83	
" City Trust Co.,	69.36	
" Equitable Trust Co.,	938.41	
" National Union Bank,	933.10	
" Old Boston National Bank,	1,764.14	
" Old Colony Trust Co.,	100.05	4,608.89
Interest on Public Funds (after deducting $178.55 for sinking premiums).		
Massachusetts 3½'s of 1913,	$1,185.25	
" " " 1916,	154.15	
" " " 1935,	66.22	
" " " 1938,	95.83	
City of Boston 3½'s,	350.00	1,851.45
Interest on Railroad Bonds (after deducting $7,994.12 for sinking premiums).		
Baltimore & Ohio 4's,	$4,000.00	
" " (P. L. E. & W. V. system) Ref. 4's,	4,000.00	
" " So. Western 3½'s,	3,500.00	
Bangor & Aroostook Ref. 4's,	5,000.00	
Burlington & Mo. River in Neb. 6's,	14,153.95	
Central Vermont 4's,	1,740.00	
Chicago & Alton 4's,	4,000.00	
Chicago, Burlington & Quincy 4's,	120.00	
" " " Ill. Div. 4's,	955.56	
" " " 3½'s,	15,243.80	
Chicago & No. Western Gen. M. 3½'s,	3,488.23	
" " Madison Extension 7's,	5,310.09	
Chicago, Rock Island & Pacific 4's,	3,920.90	
Chicago Terminal Transfer 4's,	4,000.00	
Eastern 6's,	10,194.00	
Eastern sterling 6's,	5,710.21	
Fort Scott, So. E. & Memphis 7's,	2,485.00	
Indiana, Illinois & Iowa 4's,	4,000.00	
Kansas City, Fort Scott & Memphis 6's,	8,910.56	
Kansas City, Memphis & Birmingham Income 5's,	5,700.00	
Kansas & Missouri 5's,	2,700.00	
Lake Shore & Michigan Southern 4's,	305.56	
Long Island 4's,	12,000.00	
Long Island Ref. 4's,	54.00	
Louisville & Jeffersonville Bridge 4's,	8,000.00	
Massachusetts Electric Co's. 4½'s,	4,500.00	
Amounts carried forward,	$133,991.86	$120,888.93

of the Treasurer of Harvard College,
July 31, 1904.

EXPENSES.

Paid to account of expenses in the

University, as per Table I (page 59).		
Salaries,	$40,966.27	
Retiring Allowances,	17,681.78	
Sundry payments made from special Funds, gifts, and receipts,	23,319.15	
Other expenses,	52,559.83	$134,527.03
College, as per Table II (page 64).		
Salaries for instruction,	$436,619.85	
Sundry salaries,	15,178.00	
Expenses on College Public Buildings, which are not valued in the Treasurer's books and which are not separately entered in this table,	34,564.95	
Expenses on College Dormitories, which are not valued in the Treasurer's books,	30,191.52	
General expenses,	74,610.08	
Fellowships,	25,502.50	
Scholarships,	49,435.02	
Exhibitions,	28,140.86	
Prizes,	2,531.59	
Botanic Garden and Botanic Museum,	7,978.61	
Gray Herbarium,	10,546.85	
Hemenway Gymnasium,	8,652.53	
Jefferson Physical Laboratory,	4,110.42	
Appleton Chapel,	8,425.28	
Summer Schools,	25,943.52	
Books, from special Funds and gifts,	2,223.26	
Apparatus and expenses for research, from special Funds and gifts,	9,246.34	
Publication expenses, from special Funds and gifts,	5,367.98	
Sundry payments from special Funds and gifts,	16,610.32	
Appropriations for collections and laboratories,	31,358.10	827,237.08
Library, as per Table III (page 82).		
Salaries,	$15,250.00	
Services and wages,	19,129.83	
Books,	23,660.35	
Other expenses,	12,122.57	70,162.75
Divinity School, as per Table IV (page 85).		
Salaries for instruction,	$31,453.49	
Scholarships and Exhibitions,	2,275.81	
Library building alterations,	4,051.07	
Other expenses,	10,977.84	48,758.21
Amount carried forward,		$1,080,685.02

General Statement of Receipts and Disbursements
for the year ending

INCOME (*continued*).

Amounts brought forward, ...	$133,991.86	$120,888.93
Interest on Railroad Bonds (*continued*).		
Metropolitan West Side Elevated 4's, ...	4,000.00	
" " " Extension 4's, .	4,200.00	
Minneapolis Union 5's, ...	4,866.83	
New York Central & H. R. 3½'s (L. S. & M. S. Coll.),	10,500.00	
New York Central & H. R. 3½'s (M. C. Coll.), . .	1,190.00	
New York, Ontario & Western 4's, ...	7,884.13	
Northern Pacific–Great Northern Joint 4's, ...	18,040.00	
Oregon Short Line 5's, ...	4,583.03	
Pennsylvania Co. 3½'s, ...	3,272.50	
Philadelphia, Baltimore & Washington 4's, ...	7.77	
Rutland Car Trust 4½'s, ...	4,230.00	
St. Louis & San Francisco Ref. 4's, ...	4,000.00	
Schenectady 4½'s, ...	4,371.79	
Second Avenue 5's, ...	4,605.26	
Terminal R. R. Association of St. Louis 4's, . . .	8,000.00	
Third Avenue 4's, ...	7,975.31	
Union Pacific 4's, ...	18,000.00	243,718.48
Interest on Sundry Bonds (after deducting $2,969.91 for sinking premiums).		
American Bell Telephone Co. 4's, ...	$10,162.71	
" Tel. and Tel. Co. 4's, ...	8,000.00	
Broadway Realty Co. 5's, ...	10,082.03	
Brookline Gas Light Co. 5's, ...	250.00	
Butte Water Co. 5's, ...	250.00	
Chicago Edison Co. 5's, ...	4,709.60	
Chicago Junc. Railways & Union Stock Yards Co. 5's,	14,979.85	
" " " " 4's,	4,000.00	
Girard Point Storage Co. 3½'s, ...	691.52	
Metropolitan Tel. & Tel. Co. 5's, ...	7,500.00	
Mexican Coal & Coke Co. 5's, ...	300.00	
Montreal Light, Heat and Power Co. 4½'s, ...	4,466.66	
Municipal Gas & Electric Co. 4½'s, ...	4,500.00	
New England Tel. & Tel. Co. 6's, ...	7,128.90	
" " " 5's, ...	4,058.82	
St. Louis National Stock Yards Co. 4's, ...	4,081.11	85,161.20
Dividends on Railroad Stocks.		
Boston & Lowell, ...	$2,880.00	
Boston & Maine, ...	2,219.00	
Chicago & Northwestern, ...	3,500.00	
Fitchburg, preferred, ...	1,185.00	
Manhattan, ...	3,850.00	
Massachusetts Electric Co's., preferred, ...	2,500.00	
Amounts carried forward, . . .	$16,134.00	$449,768.61

EXPENSES (*continued*).

Amount brought forward,		$1,080,685.02
Law School, as per Table V (page 87).		
Salaries for instruction,	$52,233.33	
Librarians and assistants,	10.743.14	
Scholarships,	5,100.00	
Expenses on account of the proposed addition to **Austin** Hall,	10.00	
Other expenses,	24,182.16	92,268.63
Medical School, as per Table VI (page 89).		
Salaries for instruction,	$100,075.00	
Fees repaid to Instructors,	6,726.00	
Fellowships,	2,675.00	
Scholarships and Exhibitions,	4,819.86	
Prize and expenses,	87.49	
Warren Anatomical Museum,	1,097.60	
Books, from special Funds and gifts,	1,692.43	
Publications, from special Funds and gifts,	1,200.00	
Sundry payments made from special Funds and gifts,	5,313.06	
Expedition to Manila, from special gifts,	4,000.00	
Laboratory appropriations,	9,916.38	
Other expenses,	28,536.69	166,139.51
Medical School Undertaking, as per Table VI (page 93).		
Building expenses,	$485,621.31	
Interest on advances,	18,680.11	
Other expenses,	2,609.77	506,911.19
Dental School, as per Table VII (page 94).		
Salaries for instruction,	$12,420.00	
Other expenses,	13,272.57	25,692.57
Museum of Comparative Zoölogy, as per Table VIII (page 95).		
Paid from sundry Funds on the order of the Faculty,	$31,458.24	
Sturgis Hooper Fund, salary and expenses,	5,064.25	
Scholarship,	250.00	36,772.49
Peabody Museum of American Archaeology and Ethnology, as per Table IX (page 96).		
Peabody Professor Fund, **Peabody** Professor,	$2,354.67	
Fellowship,	1,148.90	
Other expenses,	6,452.66	
	$9,956.23	
Less amount paid from University income,	1,295.31	8,660.92
Amount carried forward,		$1,917,130.33

INCOME (*continued*).

Amounts brought forward, . . .			$16,134.00	$449,768.61
Dividends on Railroad Stocks (*continued*).				
New York Central & Hudson River, ...			6,240.00	
New York, New Haven & Hartford, ...			6,333.33	
Northern (N. H.), ...			1,885.00	
Old Colony, ...			2,485.00	
Pennsylvania, ...			19,434.00	
West End Street, preferred, ...			208.00	52,719.33
Dividends on Manufacturing Stocks.				
American Sugar Refining Co., ...			$112.00	
Amoskeag Manufacturing Co., ...			1,200.00	
Brookside Mills, ...			87.50	
Lanett Cotton Mills, ...			90.00	
Merrimack Manufacturing Co., ...			467.50	
Pacific Mills, ...			2,400.00	
Pennsylvania Steel Co., preferred, ...			73.50	
United States Steel Corporation, preferred, . . .			43.75	4,474.25
Dividends on Real Estate Trust Stocks.				
Barristers Hall Trust, ...			$2,500.00	
Boston Real Estate Trust, ...			675.00	
Department Store Trust, ...			5,000.00	
Essex Street Trust, ...			1,500.00	
Kimball Building Trust, ...			674.17	
Paddock Building Trust, ...			4,161.50	
Post Office Square Building Trust, ...			4,000.00	18,510.67
Dividends on Sundry Stocks.				
American Telephone & Telegraph Co., ...			$11,700.00	
Calumet & Hecla Mining Co., ...			600.00	12,300.00
Real Estate Investments, from rents, &c., net receipts.				
Cambridge (University Houses and Lands).				
Gross receipts, ...		$43,640.94		
Less Taxes, ...	$4,862.13			
Insurance, ...	1,004.85			
Repairs, improvements, care, &c., ...	15,708.31	21,575.29	$22,065.65	
Boston (general investments).				
Gross receipts, ...		$214,769.14		
Less Taxes, ...	$43,083.50			
Insurance, ...	2,854.23			
Repairs, improvements, care, &c., ...	25,844.59			
Repaid to capital, . . .	4,338.51	76,120.83	138,648.31	
Amounts carried forward, . . .			$160,713.96	$537,772.86

of the Treasurer of Harvard College,
July 31, 1904.

EXPENSES (*continued*).

Amount brought forward,		$1,917,130.88
Observatory, as per Table X (page 97).		
Salaries,	$16,500.00	
Services and wages,	6,918.16	
Addition to fireproof building,	2,881.30	
Other expenses,	29,306.62	55,606.08
Bussey Institution, as per table XI (page 99).		
Salaries for instruction,	$8,000.00	
Other expenses,	8,887.62	16,887.62
Arnold Arboretum, as per Table XII (page 99).		
Salaries,	$3,500.00	
Other expenses,	14,240.32	17,740.32
Annuities from the following Funds.		
Advancement of Astronomical Science (1901),	$2,357.83	
“ “ “ “ (1902),	453.25	
Bussey Trust,	4,000.00	
Caroline Brewer Croft,	2,153.38	
Gurney,	1,000.00	
Professorship of Hygiene,	4,519.22	
Alexander W. Thayer,	480.00	
Charles Wilder,	1,872.00	
Henry S. Nourse,	250.00	17,085.68
Class Funds.		
Paid the Secretary of the **Class of 1853,**		149.00
Sundry payments.		
Eaton Professorship of the Science of Government, legal expenses,	$190.05	
Calvin and **Lucy Ellis** Fund, taxes and expenses,	114.96	
Calvin and **Lucy Ellis** Aid Fund, plan,	.75	
Charles L. Hancock Fund, taxes on Chelsea real estate,	43.71	
Henry S. Nourse Fund, legal and other expenses,	349.48	
George Smith Bequest, express charges,	29.70	
Thayer Scholarship Fund, legal expenses,	10.00	
Daniel Williams Fund, for the benefit of the Masphee and Herring Pond Indians,	781.22	
Sarah Winslow Fund, to the Minister and the Teacher at Tyngsborough, Mass.,	330.88	
Woodland Hill Fund, taxes on Muddy River land, boundary wall on Walter St., and land on Weld St.,	1,823.85	
Gifts for Cuban Teachers, expenses,	100.00	3,774.60
Amount carried forward,		$2,028,373.63

General Statement of Receipts and Disbursements for the year ending

INCOME (*continued*).

Amounts brought forward, ...			$160,713.96	$537,772.86
Real Estate Investments (*continued*).				
Bussey real estate.				
Gross receipts, ...		$42,676.94		
Less Taxes, ...	$10,325.96			
Insurance, ...	1,227.26			
Interest, ...	2,362.72			
Repairs, improvements, care, &c., ...	2,209.43			
Heat and power, . . .	4,928.41			
Repaid to capital, . . .	5,641.30	26,695.08	15,981.86	
Sundry estates (special investments).				
Gross receipts, ...		$6,491.48		
Less Taxes, ...	$1,917.90			
Repairs, ...	773.69	2,691.59	3,799.89	180,495.71
Receipts from Students.				
Tuition fees, regular courses.				
College, ...		$435,541.16		
Divinity School, ...		7,535.50		
Law School, ...		108,450.00		
Medical School, ...		67,293.00		
Dental "		13,060.00		
Bussey Institution, ...		2,550.00	$634,429.66	
Tuition fees, Summer courses.				
College, ...		$25,151.67		
Divinity School, ...		705.00		
Medical "		4,772.50	30,629.17	
Laboratory fees.				
College, ...		$28,097.70		
Medical School, ...		2,954.88		
Dental "		2,482.61	33,535.19	
Examination fees				
College. Admission, ...		$4,555.00		
Condition, ...		540.00		
Medical School, ...		522.00		
Dental "		405.00	6,022.00	
Graduation fees.				
College, ...		$9,320.00		
Medical School, ...		3,900.00	13,220.00	
Matriculation fees, Medical School, ...			360.00	
Rooms in dormitories.				
College buildings, ...		$102,227.18		
Less receipts from students, separately entered in University Houses and Lands account, ...		21,364.63		
		$80,862.50		
Divinity Hall, ...		2,740.00	83,602.50	
Amounts carried forward, ...			$801,798.52	$718,268.57

of the Treasurer of Harvard College, July 31, 1904.

EXPENSES (*continued*).

Amount brought forward, ...		$2,028,873.63
Construction Funds.		
Emerson Hall, ...	$3,220.40	
Semitic Building, ...	397.54	
John Simpkins Hall, ...	1,250.00	
Stadium, ...	226,152.29	
Stillman Infirmary, ...	8,087.35	
University Museum, ...	1,891.82	240,999.40
Total amount of expenses, ...		$2,269,873.03

INVESTMENTS AND SUNDRY PAYMENTS.

GENERAL INVESTMENTS.

$200,000	American Tel. & Tel. Co. 3 year 5% Gold Coupon Notes of 1907, ...	$198,000.00	
100,000	Boston & Northern Street R'y 1st M. Ref. 4's of 1954, ...	94,000.00	
200,000	Chicago, Burlington & Quincy R. R. (Illinois Division) 4's of 1949, ...	201,000.00	
100,000	Lake Shore & Michigan Southern R'y Deb. 4's of 1928, ...	95,000.00	
9,000	Long Island R. R. Ref. M. 4's of 1949, . . .	8,550.00	
100,000	Missouri Pacific R'y 5% Notes of 1906, . . .	99,000.00	
100,000	Old Colony Street R'y 1st M. Ref. 4's of 1954,	94,000.00	
100,000	Pennsylvania Company Coll. Trust 4½% Notes of 1905, ...	99,843.75	
10,000	Philadelphia, Baltimore & Washington R. R. 1st. M. 4's of 1943, ...	10,100.00	
10,000	St. Louis National Stock Yards Co. 1st M. 4's of 1930, ...	9,150.00	
700	shares Manhattan R'y, ...	92,762.50	
500	" New York, New Haven & Hartford R.R.,	95,062.50	
2,500	" Department Store Trust, ...	220,291.88	
750	" Kimball Building Trust (90%), . . .	67,500.00	
700	" American Tel. & Tel. Co., ...	70,000.00	
2,500	rights " " "	12,718.13	
Estate Nos. 13 & 14 Haymarket Square, Boston, . . .		36,000.00	
Improvements on **Adams** Estate, ...		33,380.02	
" " **Gray** Estate, ...		30,053.27	
Advances to **Bussey** Real Estate, ...		75.00	
" **Calvin** and **Lucy Ellis** Real Estate, .		5.54	
" **Harvard** Dining Association, ...		3,700.98	
" **Cowdin** Real Estate, ...		12.00	
" **Randall** Hall Association, ...		1,000.00	
Invested in notes, ...		1,334,000.00	
	Amounts carried forward, . . .	$2,905,205.57	$2,269,873.03

General Statement of Receipts and Disbursements for the year ending

INCOME (*continued*).

Amounts brought forward, ...		$801,798.52	$718,268.57
Receipts from Students (*continued*).			
Library fines.			
Library, ...	$393.03		
Divinity School, ...	7.95		
Dental School, ...	.36	401.34	
Care of patients in **Stillman** Infirmary, ...		6,588.76	
Use of Microscopes.			
Medical School, ...	$783.00		
Dental School, ...	99.00	882.00	
Use of lockers, Hemenway Gymnasium, ...		3,478.00	
Summer Camp, engineering, ...		10,086.40	823,235.02
Sundries.			
Professorship of Hygiene, from Trustees, ...		$1,119.54	
Asa Gray's copyrights, ...		829.14	
Trustee of **George H. Emerson** estate, . . .		1,000.00	
Trustee of **C. L. Hancock** real estate, ...		1,248.78	
Trustees of **Edward Hopkins,**		206.32	
Sale of grass, wood, old material, &c., ...		3,607.31	
" old examination papers, ...		442.62	
" tickets to Commencement Dinner, ...		678.00	
" tickets to Divinity School Alumni Dinner, .		42.00	
" books, pamphlets, catalogues, &c., ...		5,424.61	
" time signals, ...		36.83	
Board of horses, cattle, &c., at **Bussey** Institution,		4,905.26	
Use of Library by resident graduates and others, .		110.00	
" Gymnasium by graduates and others, . . .		112.29	
" Buildings (not Univ. Houses and Lands), .		6,758.71	
Fees in Infirmary, Dental School, ...		4,403.00	
Mary L. Whitney Scholarship, from the Executor of the will of **C. L. B. Whitney,**		111.50	31,035.91
Sundry Gifts for immediate use (see page 24), ...			875,575.21
Total amount of income, ...			$2,448,114.71

RECEIPTS EXCLUSIVE OF INCOME.

GIFTS FOR CAPITAL ACCOUNT.

Arnold Arboretum Fund (additional), ...	$1,065.00	
Robert Bacon Fund (additional), ...	60,000.00	
Joseph Baker Fund (additional), ...	7,400.00	
Band Music Fund, ...	1,143.00	
Robert Charles Billings Fund (Arnold Arboretum),	12,500.00	
Robert Charles Billings Fund (Divinity School),	2,500.00	
Francis Boott Fund, ...	10,000.00	
Amounts carried forward, ...	$94,608.00	$2,448,114.71

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amounts brought forward, . .	$2,905,205.57	$2,269,373.08
GENERAL INVESTMENTS (*continued*).		
Accrued interest and expenses on bonds and notes bought, ...	5,401.39	2,910,606.96
Special deposits repaid, ...		2,625.00
SPECIAL INVESTMENTS.		
Price Greenleaf Fund.		
Invested in notes, ...		100,000.00
Charles L. Hancock Fund.		
Deed of real estate, ...		10.50
Robert Troup Paine Fund.		
$4,000 Massachusetts 3½'s of 1935, ...		4,240.00
Woodland Hill Fund.		
Building for the Laboratory of Comparative Pathology, on account,		14,736.84
Property received for the **Robert Charles Billings** Fund (**Arnold** Arboretum).		
$5,000 Butte Water Co. 1st M. 5's of 1921, ...		4,000.00
Property received for the Riverside Fund.		
6 shares Harvard Riverside Associates stock, ...		6,000.00
Unsold property received for the **Henry S. Nourse** Fund.		
32 shares American Sugar Refining Co., ...	$3,936.00	
25 “ Brookside Mills, ...	2,500.00	
30 “ Lanett Cotton Mills, ...	3,000.00	
40 “ Missouri Zinc Fields Co., ...	120.00	
80 “ The National Land and Improvement Co. of Colorado, ...	1.00	
21 “ Pennsylvania Steel Co., preferred, . . .	1,260.00	
3 “ “ “ “ common, . . .	3.00	
15 “ Western Tel. & Tel. Co., preferred, . .	1,320.00	
45 “ “ “ “ common, . .	540.00	
Mortgage notes, ...	12.800.00	25,480.00
Henry S. Nourse Fund.		
Mortgage notes, ...		1,100.00
Property received for the **Arthur T. Lyman** Fund.		
$25,000 Note of Boston Manufacturing Co., ...		25,000.00
Property received on account of **George Smith's** Bequest.		
$13,000 Citizens Street Railway Co., Shelby County, Tenn., Gold 6's of 1916, ...	$14,369.33	
Amounts carried forward, ...	$14,369.33	$5,363,172.38

RECEIPTS EXCLUSIVE OF INCOME (*continued*).

Amounts brought forward, . . .	$94,608.00	$2,448,114.71
GIFTS FOR CAPITAL ACCOUNT (*continued*).		
Borden Scholarship Fund (additional), ...	170.00	
Dental School Endowment (additional), ...	10.00	
Fund for the Advancement of Astronomical Science (1902) (additional), ...	1,500.00	
Fund of the **Class of 1856**, ...	7,500.00	
Asa Gray Memorial Fund (additional), ...	100.00	
F. B. Greenough Fund for Surgical Research (additional), ...	300.00	
George Silsbee and **Ellen Sever Hale** Fund, . .	5,000.00	
Lectures on Political Economy Fund (additional), . .	35.00	
Arthur T. Lyman Fund, ...	25,000.00	
Musical Department Fund, ...	1,003.40	
Henry S. Nourse Fund, ...	44,671.45	
Joseph Pearson Oliver Scholarship Fund, . . .	8,500.00	
The Philadelphia Scholarship Fund, ...	10,100.00	
Riverside Fund, ...	6,000.00	
John D. Rockefeller Gift (additional), ...	163,791.13	
George Smith Bequest, ...	257,550.66	
Swift Scholarship Fund (additional), ...	1,000.00	
David Ames Wells Fund (additional), ...	944.41	
Jerome Wheelock Fund, ...	10.00	
Mary L. Whitney Scholarship Fund (additional), .	1,194.50	
Josiah Dwight Whitney Fund, ...	5,000.00	633,988.55
SALES, ETC., GENERAL INVESTMENTS.		
$32,200 Burl. & Mo. River (Neb.) R. R. non. ex. 6's, called and paid off at par, ...	$32,200.00	
24,000 Eastern R. R. 6's of 1906, ...	25,272.00	
26,000 Fort Scott, South Eastern & Memphis R. R. 1st M. 7's, called and paid off at 105, . . .	27,300.00	
9,000 Long Island R. R. Ref. M. 4's of 1949, . . .	8,550.00	
25,000 Long Island R. R. Ref. M. 4's of 1949, profit on Syndicate purchase and sale, ...	596.53	
10,000 Philadelphia, Baltimore & Washington R. R. 1st M. 4's of 1943, ...	10,100.00	
25,000 Philadelphia, Baltimore & Washington 1st M. 4's of 1943, profit on Syndicate purchase and sale, ...	596.52	
7,000 Pennsylvania Company 3½'s of 1916, called and paid off at par, ...	7,000.00	
Hayward Estate, Washington St., Boston, ...	586,361.88	
Notes paid, ...	1,659,000.00	2,356,976.93
Amount carried forward, ...		$5,439,080.19

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

	Amounts brought forward, ...	$14,369.33	$5,363,172.33

SPECIAL INVESTMENTS (*continued*).

George Smith's Bequest (*continued*).

$4,000	City of Commerce, Texas, Permanent Improvement 6's of 1921, ...	4,021.33	
10,000	Du Quoin, Ill., Water Works Co. 6's of 1901,	1.00	
17,000	City of Ennis, Texas, Bridge & Street Improvement 6's of 1935, ...	17,090.67	
3,000	Grand River Township, Cass County, Missouri, Funding 5's of 1917, ...	3,075.83	
11,000	Jones County, Texas, Ref. Court House 5's of 1937, ...	10,622.63	
20,000	Laclede Gas Light Co. 5's of 1919, ...	20,000.00	
4,000	Lampasas County, Texas, Bridge 5's of 1910, .	4,063.78	
500	City of Whitewright, Texas, Permanent Improvement 6's of 1914, ...	500.17	
32,000	United States Steel Corporation 5's of 1963, . .	24,000.00	
315 shares	Boatmen's Bank of St. Louis, ...	70,875.00	
200 "	Laclede Gas Light Co., preferred, . . .	18,800.00	
480 "	United States Steel Corporation, preferred,	26,400.00	213,818.74

Amount carried forward, ...	$5,576,991.07

General Statement of Receipts and Disbursements
for the year ending

RECEIPTS EXCLUSIVE OF INCOME (*continued*).

Amount brought forward,		$5,439,080.19

SALES, ETC., SPECIAL INVESTMENTS.

Sale of Investments of **Price Greenleaf** Fund.		
Notes paid,		100,000.00
Sale of Investment of **John Cowdin** Fund.		
Cowdin Estate, Haymarket Square, Boston,	$36,000.00	
Less advances, repaid,	2,164.94	33,835.06
Note held for **James Barr Ames** Prize Fund, paid in part,		250.00

SUNDRIES.

Harvard Dining Association, to reduce debt,	$2,050.00	
Randall Hall Association, to reduce debt,	1,500.00	
Premiums on Bonds, repaid in part,	11,142.58	
Advances for accrued interest and expenses on bonds and notes, repaid,	5,116.66	
Advances to **Cowdin** Estate, repaid,	2,164.94	
Improvements on **Adams** Estate, repaid in part,	1,669.00	
" " **Gray** Estate, repaid in part,	2,669.51	
" " **Bussey** Real Estate, repaid in part,	5,641.30	
Loans to Students, repaid,	4,179.87	
Sundry repayments,	4,599.38	
Special deposit,	500.00	41,233.19

Bursar's Sundry Accounts.		
Receipts during the year.		
On account of **Harvard** Dining Association,	$223,947.16	
" **Randall** Hall Association,	86,282.08	
On Sundry accounts,	184,369.82	494,599.06
Balance, August 1, 1903.		
Cash in Adams Trust Co.,	$47,260.22	
" City Trust Co.,	3,557.44	
" Old Boston National Bank,	13,922.86	
" National Union Bank,	62,090.35	
Term Bills due in October, 1903,	241,773.03	
" overdue,	10,147.50	
Cash in hands of Charles F. Mason, Bursar,	21,508.17	400,259.57
Total,		$6,509,257.07

of the Treasurer of Harvard College,
July 31, 1904.

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, ...		$5,576.991.07
Bursar's Sundry Accounts.		
Payments during the year.		
On account of Harvard Dining Association, .	$224,119.50	
" Randall Hall Association, . .	88,272.68	
On sundry accounts, ...	191,647.57	504,039.75
Balance, July 31, 1904.		
Cash in Adams Trust Co., ...	$10,478.31	
" City Trust Co., ...	4,392.91	
" Equitable Trust Co., ...	105,938.41	
" Old Boston National Bank, ...	4,253.87	
" National Union Bank, ...	15,413.69	
Term Bills due in October, 1904, ...	249,422.71	
" overdue, ...	8,870.39	
Cash in hands of Charles F. Mason, Bursar, . . .	29,455.96	428,226.25
Total, ...		$6,509,257.07

The following Account exhibits the State of the Property, as entered upon the Treasurer's Books, July 31, 1904.

Separate Investments, as stated in detail on pages 3, 4, 5, 6, and 7 of this report, consisting of		
Railroad Bonds,	$327,749.23	
Sundry Bonds,	446,207.10	
Railroad Stocks,	327,035.59	
Real Estate Trust Stocks,	80,703.75	
Sundry Stocks,	144,305.00	
University Houses and Lands,	519,337.04	
Bussey Real Estate,	392,710.18	
Other Real Estate,	137,952.64	
Mortgages and Notes,	178,150.00	
Deposits in Massachusetts Hospital Life Ins. Co.,	21,225.00	
Cash in City Trust Co.,	4,392.91	$2,529,768.44
And "General Investments," as follows: —		
Mortgages and Notes.		
Mortgages,	$400,000.00	
Boston Manufacturing Co.'s Notes,	50,000.00	
Boott Cotton Mills' Note,	100,000.00	
Cocheco Manufacturing Co.'s Notes,	100,000.00	
Fitchburg R. R. Co.'s Note,	100,000.00	
Manchester Cotton Mills' Note,	50,000.00	
Merchants & Miners Transportation Co.'s Notes,	25,000.00	
Merrimack Manufacturing Co.'s Notes,	100,000.00	
Personal Notes, with collateral,	409,000.00	1,334,000.00
Railroad Bonds.		
$100,000 Baltimore & Ohio 1st M. 4's of 1948,	$96,625.00	
100,000 Baltimore & Ohio (S. W. Division) 1st M. 3½'s of 1925,	89,750.00	
100,000 Baltimore & Ohio (Pittsburg, Lake Erie & West Virginia System) Ref. M. 4's of 1941,	99,250.00	
125,000 Bangor & Aroostook Cons. Ref. M. 4's of 1951,	118,750.00	
100,000 Boston & Northern Street R'y 1st M. Ref. 4's of 1954,	94,000.00	
234,600 Burl. & Mo. R. in Nebr. non ex. 6's,	235,816.46	
100,000 Chicago & Alton 4% Coll. Notes of 1907,	96,350.00	
444,000 Chicago, Burl. & Quincy 3½'s of 1949,	457,328.69	
200,000 Chicago, Burl. & Quincy (Illinois Division) 4's of 1949,	201,000.00	
100,000 Chicago & No. Western Gen. M. 3½'s of 1987,	100,982.57	
100,000 Chicago & No. Western (Madison Extension) 1st M. 7's of 1911,	111,829.29	
Amounts carried forward,	$1,703,682.01	$3,863,768.44

	Amounts brought forward, . .	$1,708,682.01	$3,863,768.44
Railroad Bonds (*continued*).			
$100,000	Chicago, Rock Island & Pacific Gen. M. 4's of 1988, ...	106,604.78	
100,000	Chicago Terminal Transfer 1st M. 4's of 1947, ...	95,772.50	
154,500	Eastern, 1st M. 6's of 1906, ...	154,314.58	
£19,600	“ “ “ Sterling of 1906,	95,383.40	
$25,000	Fort Scott, So. E. & Mem. 1st M. 7's, .	22,358.69	
100,000	Indiana, Ill. & Iowa 1st M. 4's of 1950,	96,500.00	
142,000	Kansas City, Fort Scott & Memphis Cons. M. 6's of 1928, ...	173,544.83	
114,000	Kansas City, Memphis & Birmingham (assented) Income 5's of 1934, . . .	103,500.00	
100,000	Lake Shore & Michigan Southern Deb. 4's of 1928, ...	95,000.00	
300,000	Long Island Unified M. 4's of 1949, . .	283,257.50	
200,000	Louisville & Jeffersonville Bridge Co. 1st M. 4's of 1945, ...	191,000.00	
100,000	Massachusetts Electric Companies 4½% Gold Coupon Notes of 1906, ...	98,000.00	
100,000	Metrop. West Side Elevated 4's of 1938,	91,746.25	
100,000	“ “ “ Ext. M. 4's of 1938, ...	97,000.00	
100,000	Minneapolis Union 1st M. 5's of 1922, .	102,396.98	
100,000	Missouri Pacific 5% Notes of 1906, . .	99,000.00	
300,000	New York Central & H. R. (L. S. & M. S. Coll.) 3½'s of 1998, ...	295,964.40	
200,000	New York, Ontario & Western Ref. M. 4's of 1992, ...	210,196.32	
343,000	Northern Pacific-Great Northern Joint 4's (C. B. & Q. Coll.) of 1921, . . .	164,325.92	
100,000	Old Colony Street R'y 1st M. Ref. 4's of 1954, ...	94,000.00	
100,000	Oregon Short Line Cons. 1st M. 5's of 1946, ...	117,512.56	
90,000	Pennsylvania Co. 3½'s of 1916, ...	87,875.00	
100,000	Pennsylvania Co. Coll. Tr. 4½% Notes of 1905, ...	99,843.75	
100,000	Rutland Car Trust 4½'s of 1905, ...	100,270.00	
100,000	Schenectady 1st M. 4½'s of 1941, . . .	104,807.69	
100,000	St. Louis & San Francisco Ref. M. 4's of 1951, ...	97,125.00	
100,000	Second Ave. (N. Y.) Con. M. 5's of 1948,	117,368.56	
200,000	Terminal R. R. Association of St. Louis Gen M. Ref. 4's of 1953, ...	200,000.00	
200,000	Third Avenue (N. Y.) 1st Consol. M. 4's of 2000, ...	202,357.72	
400,000	Union Pacific 1st M. & L. G. 4's of 1947,	353,114.75	5,853,823.19
	Amount carried forward, ...		$9,717,591.68

	Amount brought forward, ...		$9,717,591.63
Sundry Bonds.			
$200,000	American Bell Tel. Co. 4's of 1908, . .	$202,033.30	
200,000	American Tel. & Tel. Co. 4's of 1929, .	196,000.00	
200,000	American Tel. & Tel. Co. 5% Gold Coupon Notes of 1907, ...	198,000.00	
145,000	Broadway Realty Co. Purchase money 1st M. 5's of 1926, ...	155,884.27	
100,000	Chicago Edison Co. 1st M. 5's of 1926, .	106,388.80	
250,000	Chicago Junction Railways and Union Stock Yards Coll. Trust 5's of 1915, .	250,221.60	
100,000	Chicago Junction Railways and Union Stock Yards 4's of 1940, ...	98,500.00	
100,000	Metrop. Tel. & Tel. Co. 1st M. 5's of 1918,	99,500.00	
100,000	Montreal Light, Heat and Power Co. 1st M. Coll. Tr. 4½'s of 1932, ...	100,916.65	
100,000	Municipal Gas & Electric Co. of Rochester, N. Y., 1st M. 4½'s of 1942, . . .	100,000.00	
100,000	New England Tel. & Tel. Co. 6's of 1906,	100,593.72	
100,000	" " " 5's of 1916,	111,294.10	
110,000	St. Louis National Stock Yards Co. 1st M. 4's of 1930, ...	108,650.00	1,827,982.44
Railroad Stocks.			
500 shares	Chicago & No. Western, common, .	$82,562.50	
700 "	Manhattan, ...	92,762.50	
1225 "	N. Y. Central & Hud. River, ...	64,674.87	
1000 "	New York, New Haven & Hartford, .	188,437.50	
5771 "	Pennsylvania, ...	376,937.80	805,375.17
Manufacturing and Telephone Stocks.			
12 shares	Amoskeag Manufacturing Co., . . .	$3,654.00	
187 "	Merrimack " " . . .	18,615.10	
24 "	Pacific Mills, ...	16,668.29	
1700 "	American Tel. & Tel. Co., ...	238,125.38	277,062.77
Real Estate Trust Stocks.			
1000 shares	Barristers Hall Trust, ...	$92,766.00	
2500 "	Department Store Trust, ...	220,291.88	
1000 "	Essex Street Trust, ...	100,000.00	
750 "	Kimball Building Trust, ...	75,000.00	
1089 "	Paddock Building Trust, ...	104,363.72	
1000 "	Post Office Square Building Trust, .	103,000.00	695,421.60
Real Estate.			
	Adams Estate, Washington Street, Boston, . . .	$281,711.02	
	Amory Estate, Franklin Street, Boston, ...	165,615.81	
	Cowdin Estate, Haymarket Square, Boston, . .	36,000.00	
	Estate, 20 and 21 Haymarket Square, Boston, . .	58,913.52	
	Gerrish Block, Blackstone and North Streets, Boston, ...	192,875.75	
	Amounts carried forward, . . .	$735,116.10	$13,323,433.61

Amounts brought forward, . . .	$735,116.10	$13,323,433.61
Real Estate (*continued*).		
Gray Estate, Washington Street, Boston, ...	896,428.27	
Lowell Estate, Washington Street, Boston, . . .	464,368.91	
Townsend Estate, Hawkins Street, Boston, . . .	44,569.49	
Webb Estate, Washington Street, Boston, . . .	164,604.79	2,305,087.56
Sundries.		
Advances to Bussey Trust, ...	$53,501.81	
" Calvin & Lucy Ellis Real Estate,	5.54	
" Medical School Undertaking, . . .	496,101.77	
" Observatory, ...	5,453.52	
" Peabody Museum of American Archaeology and Ethnology, . .	2,041.66	
" Botanic Department, ...	7,261.09	
" Harvard Dining Association, . .	45,990.14	
" Randall Hall Association, ...	38,202.27	
" Classical Publication Fund of the Class of 1856, ...	1,177.12	
" Stadium, ...	57,982.73	
" Sundry Accounts, ...	730.94	
	$708,398.59	
Term bills due in October, 1904, ...	249,422.71	
" overdue, ...	8,870.39	961,691.69
Cash in Adams Trust Co., ...	$10,478.31	
" Equitable Trust Co., ...	105,938.41	
" National Union Bank, ...	15,413.69	
" Old Boston National Bank, ...	4,253.87	
" hands of Charles F. Mason, Bursar, . . .	29,455.96	165,540.24
Total, ...		$16,755,753.10

*The foregoing Property represents the following **Funds and** Balances,* and is answerable for the same.*

Principal, Aug. 1, 1903.	UNIVERSITY FUNDS.		Principal, July 31, 1904.
	Band Music (1903), ...		$1,143.00
$4,950.00	**Andrew Bigelow** (1898), ...		4,950.00
5,000.00	**Stanton Blake** (1899), ...		5,000.00
4,771.33	**Charlotte F. Blanchard** (1891), .		4,771.33
5,250.00	**Samuel D. Bradford** (1866), . .		5,250.00
12,500.00	**John W. Carter** (1898), ...		12,500.00
154.72	**Thomas Cotton** (1727), ...		154.86
22,000.00	**John Cowdin** (1888), ...		33,835.06
115,966.56	**George B. Dorr** (1882), ...		115,966.56
48,458.50	**George Draper** (1892), ...		48,458.50
56,787.00	**R. H. Eddy** (1901), ...		56,787.00
101,225.49	**Harvard Ellis** (1895), ...		101,225.49
5,322.09	**John Davis Williams French** (1901),		5,322.09
20,571.18	**Gore** (1834), ...		20,571.18
25,000.00	**John C. Gray** (1881), ...		25,000.00
20,000.00	**Walter Hastings** (1888), ...		20,000.00
5,000.00	**George Baxter Hyde** (1895), . .		5,000.00
91,885.23	Insurance and Guaranty (1860), . . .		61,142.17
16,871.63	**Leonard Jarvis** (1859), ...		16,871.63
10,000.00	**Henry P. Kidder** (1894), ...		10,000.00
10,000.00	**Joseph Lee** (1802), ...		10,000.00
10,000.00	**Theodore Lyman** (1898), ...		10,000.00
81,950.54	**Henry T. Morgan** (1883), ...		81,950.54
15,750.00	**Israel Munson** (1844), ...		15,750.00
	Henry S. Nourse (1904), ...		45,105.94
113,817.44	**Francis E. Parker** (1886), ...		113,817.44
30,000.00	**William Perkins** (1888), ...		30,000.00
50,475.41	**Henry L. Pierce** (1898), ...		50,467.79
205,474.96	**Henry L. Pierce** (Residuary) (1898),		
	Total received, ...	$798,000.00	
	Appropriated for **Pierce** Hall, ...	$242,525.04	
	Appropriated for the Medical School Undertaking,	350,000.00	
		$592,525.04	205,474.96
63,598.41	President's (1883), ...		63,652.19
366,416.47	Retiring Allowance (1879), ...		366,416.47
	Riverside (1903), ...		6,000.00
23,370.03	**John L. Russell** (1889), ...		23,370.03
1,902.61	**Mary R. Searle** (1903), ...		1,930.18
46,913.13	**Isaac Sweetser** (1894), ...		46,913.13
5,000.00	**Seth Turner** (1883), ...		5,000.00
50,000.00	**Henry Villard** (1902), ...		50,000.00
100,000.00	**William F. Weld** (1893), ...		100,000.00
$1,746,382.73	. . Amounts carried forward, ...		$1,779,797.54

* The dates of the establishment of the Funds are printed after their titles.

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$1,746,382.73	. . Amounts brought forward, ...		$1,779,797.54
	*COLLEGE FUNDS.		
9,363.26	**John W. P. Abbot** (1874), . . .	$9,809.88	
27,748.64	**Alford** Professorship (1765), . . .	27,748.64	
6,230.00	**Daniel Austin** (1879), ...	6,230.00	
15,000.00	**Robert Charles Billings,** for **Gray** Herbarium (1903), ...	15,000.00	
1,050.00	**John A. Blanchard** (1873), . .	1,050.00	
39,780.00	Botanic Department (1880), ...	39,780.00	
28,337.40	**Boylston** Professorship (1772), . .	28,337.40	
11,224.29	**Francis James Child** Mem. (1897),	11,280.77	
7,105.12	Classical Publ. F'd of **Class of 1856** (1888), ...	7,105.12	
150,445.04	Class Subscription (1870), ...	150,445.04	
465.48	Cryptogamic Herbarium (balance), .	939.81	
58,245.94	**T. Jefferson Coolidge,** for Research in Physics, ...	58,568.65	
3,459.71	**Paul Dudley** (1751), ...	3,524.75	
101,414.59	**Eaton** Professorship (1903), . . .	104,002.11	
21,619.50	**Eliot** Professorship (1814), ...	21,619.50	
10,000.00	**Eliot** " **(Jon. Phillips'** gift) (1854), ...	10,000.00	
3,500.01	**Erving** Professorship (1791), . . .	3,500.01	
35,990.99	**Fisher** " (1834), . . .	35,990.99	
412.46	**Henry Flynt** (1760), ...	413.67	
16,240.38	Fund for Permanent Tutors (1796), .	16,240.38	
1,033.57	Fund for Religious Services (1887), .	1,033.57	
12,229.57	**Godkin** Lecture (1903), ...	12,812.94	
6,472.42	Gospel Church (1868), ...	6,626.77	
1,900.48	**Gray** Herbarium (balance), ...	939.77	
32,511.00	**Asa Gray** Memorial (1898), . . .	32,611.00	
21,595.16	**Asa Gray** Professorship of Systematic Botany (1897), ...	21,614.47	
195,417.71	**Gurney** (1888), ...	195,739.15	
	George Silsbee and **Ellen Sever Hale** (1904), ...	5,039.73	
15,066.80	**Harvard** Oriental Series (1899), . .	15,000.00	
20,655.91	Herbarium (1865), ...	20,655.91	
20,217.08	**Hersey** Professorship (1772), . . .	20,217.08	
21,744.18	**Hersey** Professorship (**Thomas Lee's** gift) (1856), ...	21,744.18	
34,517.60	**Hollis** Professorship of Divinity (1726),	34,517.60	
3,747.33	**Hollis** " of Mathematics (1713),	3,747.33	
5,940.70	**Ingersoll** Lecture (1894), ...	6,024.09	
2,177.53	**Jefferson** Physical Lab'y (balance),	1,748.50	
10,541.32	Lectures on Political Economy (1889),	10,664.75	
$2,699,788.85	. . Amounts carried forward, . . .	$962,323.56	$1,779,797.54

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* Including some actually used in the Graduate School.

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$2,699,783.85	. . Amounts brought forward, . . .	$962,323.56	$1,779,797.54
15,796.97	**Lee** Fund for Reading (1863), . . .	15,796.97	
108,344.19	**Henry Lee** Professorship (1900), .	109,012.20	
7,968.32	**Joseph Lovering** (1891), ...	7,916.49	
66,407.31	**Lowell** Fund for a Botanic Garden (1882) (formerly Professorship of Natural History, 1805), ...	66,407.31	
	Arthur T. Lyman (1904), . . .	25,000.00	
43,062.93	**McLean** Professorship (1834), . .	43,062.93	
	Music Department (1903), ...	1,049.29	
22,626.20	**William B. Noble** Lectures (1898),	28,706.46	
14,129.13	**Daniel H. Peirce** (1876), ...	14,196.58	
21,000.00	**Perkins** Professorship (1841), . .	21,000.00	
31,500.00	**Jonathan Phillips** (1861), . . .	31,500.00	
75,000.00	Physical Laboratory Endowm't (1881),	75,000.00	
25,020.19	**Plummer** Professorship (1854), . .	25,020.19	
52,500.00	**Pope** " (1868), . .	52,500.00	
219,858.24	Professorship of Hygiene (1899), . .	224,854.37	
510,000.00	**Nelson Robinson, Jr.** (1899), .	515,376.50	
56,368.73	**Rumford** Professorship (1819), . .	56,368.73	
2,000.00	**John L. Russell** (1889), ...	2,000.00	
60,000.00	**Gurdon Saltonstall** (1901), . .	60,000.00	
4,425.01	**George William Sawin** (1890),	4,536.64	
	Schol. & Benef. money returned (bal.),	683.34	
62.30	**Barthold Schlesinger** (1901), .	30.58	
23,139.83	**Smith** Professorship (1816), . . .	23,139.83	
12,811.14	**Josiah Stickney** (1899), ...	13,284.22	
16,483.68	**John E. Thayer** (1885), ...	16,465.04	
1,193.45	**Elizabeth Torrey** (1896), . . .	1,107.04	
11,142.38	**Henry Warren Torrey** (1890), .	11,265.14	
100,918.75	**Unknown** Memorial (1898), . . .	101,179.70	
40,000.00	**Wales** Professorship (1903), . . .	40,000.00	
15,500.00	**Samuel Ward** (1680), ...	15,500.00	
6,577.94	**Cyrus M. Warren** (1893), . . .	6,426.78	
121,229.30	**Henry C. Warren** (1899), . . .	120,336.57	
5,594.24	**Sylvester Waterhouse** (1896), .	5,861.07	
50,000.00	**Increase S. Wheeler** (1889), . .	50,000.00	
	Jerome Wheelock (1903), . . .	10.38	
989.59	**Chauncey Wright** (1884), . . .	1,027.50	
	Gifts for Books, Prints, Casts, etc., for Dept. of Architec. (bal.),	4,375.38	
1,436.91	" Cases, etc., at Botanic Garden (balance), ...	1,427.06	
174.61	" Classical Library (balance),	188.17	
322.52	" Collections for a Germanic Museum (balance), . . .	322.52	
1,770.30	" Engineering Department, Electrical Apparatus (bal.), .	.13	
$4,445,138.01	. . Amounts carried forward, . . .	$2,749,258.59	$1,779,797.54

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$4,445,138.01	. . Amounts brought forward, . . .	$2,749,258.59	$1,779,797.54
2,511.78	Gifts for The Ethics of the Social Questions (bal.), ...	3,437.15	
39.15	" Physical Research (bal.), .	12.65	
3,787.39	" Plantation of Shrubs, etc. "	3,556.96	
1,516.95	" Salaries (balance), ...	1,500.00	
99.57	" Sanskrit Department (bal.),	182.28	
12,940.82	" Semitic Collection (balance),	6,972.12	
1,009.41	" " Library, "	870.09	
990.47	" Sugar-cane investigation, etc. (balance), ...	903.67	
1,971.53	Sundry Gifts (unexpended balances),	3,647.13	
	FELLOWSHIP FUNDS.		
	Cercle Français de l'Université **Harvard** (balance), ...	100.00	
5,048.77	**George Wales Dillaway** (1903),	5,289.61	
11,231.65	**Ozias Goodwin** Memorial (1889),	11,317.42	
10,844.02	**Harris** (1868), ...	10,861.28	
300.00	Indic Philology (balance), ...		
10,989.24	**John Thornton Kirkland** (1871),	11,063.42	
11,630.71	**Henry Lee** Memorial (1889), . .	11,510.51	
14,400.00	**Charles Eliot Norton** (1901), .	14,100.00	
12,748.44	**Robert Treat Paine** (1887), . .	12,856.52	
57,079.66	**John Parker** (1873), ...	57,352.37	
32,729.83	**Rogers** (1869), ...	32,478.55	
11,472.24	**Henry Bromfield Rogers** Memorial (1889), ...	11,569.45	
12,359.62	**John Tyndall** (1885), ...	11,824.19	
11,433.55	**James Walker** (1881), ...	11,228.95	
22,804.82	**Whiting** (1896), ...	23,092.62	
	SCHOLARSHIP FUNDS.		
3,799.62	**Abbot** (1852), ...	3,780.88	
1,978.26	**Alford** (1785), ...	2,072.61	
5,378.67	**Bartlett** (1881), ...	5,385.24	
5,699.90	**Bassett** (1876), ...	5,701.79	
13,066.40	**Bigelow** (1865), ...	13,106.30	
2,302.87	**Borden** (1896), ...	2,588.78	
113,573.22	**Bowditch** (1864), ...	113,740.63	
2,896.39	**Bright** (balance), ...	3,160.37	
3,859.97	**Browne** (1687), ...	3,894.09	
5,204.74	**Morey Willard Buckminster** (1898), ...	5,253.01	
33,180.83	**Burr** (1895), ...	33,563.56	
6,119.53	**Ruluff S. Choate** (1884), ...	6,136.45	
8,272.97	**Class of 1802** (1870), ...	8,342.59	
3,184.65	" **1814** (1853), ...	3,211.57	
6,523.99	" **1815 (Kirkland)** (1852),	6,668.52	
$4,910,119.64	. . Amounts carried forward, . . .	$3,211,591.92	$1,779,797.54

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$4,910,119.64	. . Amounts brought forward, . . .	$3,211,591.92	$1,779,797.54
4,544.13	**Class of 1817** (1852), ...	4,644.21	
3,487.81	" **1828** (1882), ...	3,554.29	
4,909.23	" **1835** (1853), ...	5,026.73	
5,107.64	" **1841** (1871), ...	5,151.29	
5,106.56	" **1852** (**Dana**) (1876), . .	5,150.16	
15,735.39	" **1856** (1885), ...	15,785.95	
4,713.37	" **1867** (1886), ...	4,763.18	
5,065.40	" **1877** (1902), ...	5,107.00	
5,362.00	" **1883** (1900), ...	5,429.27	
11,882.97	**Crowninshield** (1877), ...	12,074.78	
600.00	**W. H. Cudworth** (balance), . .	700.00	
5,679.28	**Francis H. Cummings** (1898), .	5,750.17	
5,539.65	**Geo.** and **Martha Derby** (1881),	5,637.25	
5,027.63	**Julius Dexter** (1892), ...	5,092.47	
2,785.68	**O. W. Doe** (1893), ...	2,818.57	
	Department of Education (balance),	500.00	
5,486.91	**W. S. Eliot** (1875), ...	5,498.64	
40,856.94	**Joseph Eveleth** (1896), ...	41,059.15	
2,145.96	Fall River (1893), ...	2,194.98	
6,260.20	**Farrar** (1873), ...	6,308.80	
11,383.56	**Richard Augustine Gambrill** (1890), ...	11,476.58	
7,618.47	**Charles Haven Goodwin** (1889),	7,681.85	
4,237.92	**Greene** (1863), ...	4,340.07	
	Harvard Club of Buffalo (balance),	66.66	
10,088.96	**John Appleton Haven** (1902), .	10,170.20	
23,630.46	**William Hilton** (1897), ...	24,022.61	
10,750.03	**Ebenezer Rockwood Hoar** (1895),	10,862.80	
6,290.90	**Levina Hoar** (1876), ...	6,340.98	
13,614.36	**Hodges** (1878), ...	13,647.27	
6,223.66	**Hollis** (1722), ...	6,295.54	
10,878.04	**Henry B. Humphrey** (1890), . .	10,871.92	
30,455.23	**C. L. Jones** (1901), ...	30,774.59	
10,340.27	**G. E. Lowell** (1886), ...	10,433.49	
5,117.00	**Markoe** (1903), ...	5,211.08	
2,728.51	**Matthews** (balance), ...	2,768.78	
6,107.08	**Merrick** (1888), ...	6,173.38	
8,240.47	**Morey** (1868), ...	8,308.52	
5,773.89	**Lady Mowlson** (1643), ...	5,824.31	
5,610.33	**Howard Gardner Nichols** (1897),	5,744.59	
5,498.25	**Lucy Osgood** (1873), ...	5,760.50	
4,950.00	**George Foster Peabody** (1902),	5,007.16	
6,230.81	**Pennoyer** (1670), ...	6,453.02	
4,303.59	**Perkins** (1869), ...	4,358.89	
	Philadelphia (1904), ...	10,260.61	
1,527.41	**Wendell Phillips** Mem'l (1895),	1,533.59	
350.00	**Ricardo** Prize (balance), ...	350.00	
$5,252,365.59	. . Amounts carried forward, . . .	$3,568,577.80	$1,779,797.54

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$5,252,365.59	. . Amounts brought forward, . . .	$3,568,577.80	$1,779,797.54
1,111.32	**Rodger** (1883), ...	1,164.31	
3,484.14	**Henry B. Rogers** (1859), ...	3,500.33	
5,708.07	**Edward Russell** (1877), ...	5,755.34	
5,603.57	**Sales** (1893), ...	5,637.54	
11,107.39	**Saltonstall** (1739), ...	11,212.19	
8,474.56	**Leverett Saltonstall** (1895), . .	8,553.82	
6,894.99	**Mary Saltonstall** (1730), ...	6,923.88	
3,291.31	**Sever** (1868), ...	3,298.29	
10,914.65	**Sewall** (1696), ...	11,035.30	
49,224.51	**Shattuck** (1854), ...	49,272.54	
6,029.85	**Slade** (1877), ...	6,150.82	
4,700.00	**Dunlap Smith** (1903), ...	4,766.66	
4,473.47	**Story** (1864), ...	4,511.83	
2,796.64	**Stoughton** (1701), ...	2,873.28	
2,394.80	**Swift** (1899), ...	3,534.85	
78,380.23	**Thayer** (1857), ...	79,008.96	
4,205.37	**Gorham Thomas** (1865), ...	4,255.95	
7,640.47	**Toppan** (1868), ...	7,704.90	
25,640.54	**Townsend** (1861), ...	25,613.61	
4,848.13	**Walcott** (1855), ...	4,946.04	
10,514.35	**Christopher M. Weld** (1899), .	10,615.87	
5,318.66	**Jacob Wendell** (1899), ...	5,372.38	
11,667.45	**Whiting** (1874), ...	11,773.96	
	Josiah Dwight Whitney (1904),	5,000.00	
7,901.91	**Mary L. Whitney** (1903), . . .	9,315.70	
	BENEFICIARY AND LOAN FUNDS.		
50,403.46	**Rebecca C. Ames** (1903), . . .	50,522.68	
549.35	**Nathaniel Appleton** (1772), . .	575.54	
1,764.82	**Frank Bolles** Memorial (1894), .	1,814.01	
1,506.54	**William Brattle** (1717), ...	1,578.42	
980.94	**Thomas Danforth** (1724), . . .	1,027.73	
5,448.73	**Moses Day** (1880), ...	5,448.73	
392.38	**John Ellery** (1738), ...	411.08	
1,333.34	Exhibitions (1796), ...	1,333.34	
735.80	**Thomas Fitch** (1737), ...	770.91	
422.96	**Ephraim Flynt** (1723), ...	443.14	
147.05	**Henry Flynt** (1760), ...	154.06	
439.72	**Henry Gibbs** (1722), ...	460.71	
2,912.79	**John Glover** (1653), ...	3,051.74	
10,321.58	**Price Greenleaf** Aid (balance), .	12,089.09	
342.80	**Edward Holyoke** (1743), . . .	359.16	
2,330.26	**Robert Keayne** (1659), ...	2,441.40	
25,195.02	**Bertram Kimball** (1903), . . .	26,192.50	
964.39	**Mary Lindall** (1812), ...	1,010.37	
5,716.22	**Susan B. Lyman** (1899), ...	5,988.87	
206.00	**Anne Mills** (1725), ...	215.83	
$5,646,806.07	. . Amounts carried forward, . . .	$3,976,265.46	$1,779,797.54

Principal, Aug 1, 1903.		Principal, July 31, 1904.	
$5,646,806.07	. . Amounts brought forward, . . .	$3,976,265.46	$1,779,797.54
10,855.32	**Munroe** (1880), ...	10,906.81	
2,022.09	**Palfrey** Exhibition (1821), ...	2,038.54	
4,617.36	**Dr. A. P. Peabody** Memorial (1896),	4,722.59	
196.17	**Joseph Sewall** (1765), ...	205.52	
14,540.68	**Alexander W. Thayer** (1899), .	14,754.29	
11,155.10	**Quincy Tufts** (1877), ...	11,155.10	
264.87	**Benjamin Wadsworth** (1737), .	277.51	
	PRIZE FUNDS.		
1,493.17	**James Gordon Bennett** (1893), .	1,524.39	
	Francis Boott (1904), ...	10,184.23	
30,191.44	**Bowdoin** Prizes for Dissertations (1791), ...	30,835.80	
3,504.73	**Boylston** Prizes for Elocution (1817),	3,416.92	
5,238.34	**Coolidge** Debating (1899), ...	5,288.19	
100.00	**Dante** (balance), ...	50.00	
1,954.49	**Edward Hopkins** Gift for "Deturs" (1718) (balance), ...	1,803.18	
1,115.73	**Sales** (1892), ...	1,078.96	
2,545.45	**John O. Sargent** (1889), ...	2,566.85	
7,000.00	**George B. Sohier** (1890), ...	7,000.00	
3,384.51	**Charles Sumner** (1874), ...	3,545.97	
3,699.03	**Robert N. Toppan** (1894), . . .	3,725.47	
2,215.00	**Philip Washburn** (1899), . . .	2,170.66	
104,286.62	**David A. Wells** (1901), ...	110,276.60	4,203,743.04
	LIBRARY FUNDS.		
2,132.83	**Bowditch** (1861), ...	$2,135.66	
133.80	**Bright** (balance), ...	112.42	
612.20	Fund of the **Class of 1851** (1899),	641.39	
602.80	" " " **1851 (C. F. Dunbar's** Gift) (1899), ...	631.56	
27,744.03	**Edwin Conant** (1892), ...	27,792.28	
25,953.22	**Constantius** (1886), ...	25,940.46	
5,311.89	**Denny** (1875), ...	5,313.80	
5,317.02	**Farrar** (1871), ...	5,346.85	
3,207.43	**Haven** (1844), ...	3,263.35	
10,049.01	**Hayes** (1885), ...	10,055.18	
5,244.23	**Hayward** (1864), ...	5,290.77	
578.02	**R. M. Hodges** (balance), ...	745.25	
2,371.89	**Hollis** (1781), ...	2,347.46	
2,169.95	**Homer** (1871), ...	2,181.50	
500.00	**Jarvis** (1885), ...	517.29	
5,297.53	**Lane** (1863), ...	5,270.15	
26,571.17	**Lowell** (1881), ...	26,492.00	
60,478.15	**Minot** (1870), ...	60,607.32	
$6,041,461.34	. . Amounts carried forward, . . .	$184,684.69	$5,983,540.58

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$6,041,461.34	. . Amounts brought forward,	$184,684.69	$5,983,540.58
7,150.89	**Lucy Osgood** (1873),	7,147.16	
6,995.40	**Mary Osgood** (1860),	7,013.71	
	Price Greenleaf Income for Books (balance),	283.86	
3,951.97	**Sales** (1892),	3,950.15	
5,313.10	**Salisbury** (1858),	5,318.82	
20,089.13	**Sever** (1878),	20,357.27	
3,981.56	**Shapleigh** (1801),	3,949.87	
69.31	**George B. Sohier** (balance),	45.23	
10,576.94	Subscription for Library (1859),	10,501.24	
37,605.05	**Sumner** (1875),	37,516.98	
5,081.17	**Kenneth Matheson Taylor** (1899),	5,142.13	
11,925.34	**Daniel Treadwell** (1885),	12,228.33	
5,243.89	**Ichabod Tucker** (1875),	5,285.36	
	Wales Income for Books (balance),	175.50	
15,871.24	**Walker** (1875),	15,932.40	
5,299.44	**Ward** (1858),	5,287.54	
259.35	**Waterston** Gift (balance),	271.70	
20,105.66	**J. Huntington Wolcott** (1891),	20,104.08	
100,000.00	**Eben Wright** (1883),	100,000.00	
1,447.10	Sundry Gifts (unexpended bals.),	1,232.20	
149.03	Sundry balances,	320.26	446,748.48

DIVINITY SCHOOL FUNDS.

22,727.90	Divinity School (balance),	$14,172.65	
71,427.02	New Endowment (1879),	71,427.02	
17,000.00	**Oliver Ames** (1880),	17,000.00	
525.00	**Hannah C. Andrews** (1836),	525.00	
890.00	**Daniel Austin** (1880),	890.00	
1,000.00	**Adams Ayer** (1869),	1,000.00	
7,875.00	**Joseph Baker** (1876),	15,275.00	
174.10	Beneficiary money returned (balance),	182.40	
4,050.35	**Rushton Dashwood Burr** (1894),	4,243.54	
37,583.74	**Bussey** Professorship (1862),	37,583.74	
2,177.95	**Joshua Clapp** (1836),	2,177.95	
5,000.00	**Edwin Conant** (1892),	5,000.00	
25,544.37	**Dexter** Lectureship (1810),	25,544.37	
50,780.89	**Frothingham** Professorship (1892),	53,203.14	
1,050.00	**Abraham W. Fuller** (1847),	1,050.00	
911.34	**Lewis Gould** (1852),	911.34	
754.85	**Louisa J. Hall** (1893),	788.52	
6,008.43	**Hancock** Professorship (1765),	6,008.43	
76,885.81	**Charles L. Hancock** (1891),	76,885.81	
5,000.00	**Haven** (1898),	5,000.00	
1,050.00	**Samuel Hoar** (1857),	1,050.00	
10,000.00	**Henry P. Kidder** (1881),	10,000.00	
9,184.69	**Henry Lienow** (1841),	9,184.69	
$6,660,178.35	. . Amounts carried forward,	$359,103.60	$6,430,289.06

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$6,660,178.35	. . Amounts brought forward, . . .	$359,103.60	$6,430,289.06
1,050.00	**Caroline Merriam** (1867), . . .	1,050.00	
16,015.81	**Parkman** Professorship (1814), .	16,015.81	
505.55	**John W. Quinby** (1888), ...	529.69	
1,000.00	**Abby Crocker Richmond** (1881),	1,000.00	
1,000.00	**John L. Russell** (1890), ...	1,000.00	
10,000.00	**William B. Spooner** (1890), . .	10,000.00	
40,000.00	**Thomas Tileston** of New York Endowment (1879), ...	40,000.00	
5,250.00	**Mary P. Townsend** (1861), . .	5,250.00	
2,100.00	**Winthrop Ward** (1862), ...	2,100.00	
54,845.78	**Winn** Professorship (1877), . . .	55,845.78	
525.00	Gift for Divinity Hall Chapel alterations, ...		
	SCHOLARSHIP AND BENEFICIARY FUNDS.		
	Robert Charles Billings Prize (1904), ...	2,509.92	
13,231.33	**Abner W. Buttrick** (1880), . . .	13,229.12	
5,668.65	**Thomas Cary** (1820), ...	5,659.06	
2,728.76	**George Chapman** (1834), . . .	2,758.98	
4,456.69	**Joshua Clapp** (1839), ...	4,489.29	
14,958.26	**Jackson** Foundation (1835), . . .	14,978.42	
5,400.48	**J. Henry Kendall** (1863), . . .	5,458.01	
3,452.03	**Nancy Kendall** (1846), ...	3,476.69	
1,050.00	**William Pomroy** (1835), ...	1,050.00	545,004.27
	LAW SCHOOL FUNDS.		
236,882.74	Law School (balance), ...	$281,556.95	
3,533.97	**James Barr Ames** Prize (1898),	3,705.23	
67,921.78	**Bemis** Professorship (1879), . . .	71,161.66	
23,979.82	**Bussey** " (1862), . . .	23,979.82	
15,750.00	**Dane** " (1829), . . .	15,750.00	
501.97	**Hughes** Loan (1903), ...	525.92	
47,021.25	Law School Book (1882), ...	47,021.25	
	Law School Exhibition, ...	75.00	
100,000.00	Law School Library (1898), ...	100,000.00	
8,340.81	**Royall** Professorship (1781), . . .	8,340.81	
1,389.92	Scholarship money returned (balance),	1,967.22	
94,994.97	**Weld** Professorship (1882), . . .	94,994.97	649,078.83
	LAWRENCE SCIENTIFIC SCHOOL FUNDS.		
758.37	**Edward Austin** Loans repaid (bal.),	$724.20	
30,686.85	**John B. Barringer** (1873), . . .	30,686.85	
	George H. Emerson Scholarship (1903) (balance), ...	475.00	
5,579.93	**George A. Gardner** (1892), . .	5,634.60	
$7,480,758.97	. . Amounts carried forward, . . .	$37,520.65	$7,624,372.16

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$7,480,758.97	. . Amounts brought forward, . . .	$37,520.65	$7,624,372.16
10,708.10	**Hennen Jennings** Scholarship (1898),	10,818.87	
61,536.43	**Abbott Lawrence** (1859), . . .	61,536.43	
50,375.00	**James Lawrence** (1865), ...	50,375.00	
456.21	**Lawrence** Scientific School Loans repaid (balance), ...	360.55	
40,805.73	Professorship of Engineering (1847),	40,805.73	
25,000.00	**Arthur Rotch** (1895), ...	25,000.00	
5,306.97	**Stuart Wadsworth Wheeler** (1898),	5,614.91	
50.00	**Lawrence** Scientific School Association Scholarship (balance), . . .	150.00	282,182.14

MUSEUM OF COMPARATIVE ZOÖLOGY FUNDS.

29,084.40	Museum of Comparative Zoölogy (bal.),	$28,154.73	
297,933.10	**Agassiz** Memorial (1875), ...	297,933.10	
7,594.01	Teachers' and Pupils' (1875), . . .	7,594.01	
5,519.15	**Virginia Barret Gibbs** Scholarship (1892), ...	5,532.41	
50,000.00	**Gray** Fund for Zoölogical Museum (1859), ...	50,000.00	
108,386.93	**Sturgis Hooper** (1865), ...	108,464.41	
7,740.66	**Humboldt** (1869), ...	7,740.66	
5,000.00	**Willard Peele Hunnewell** (1901),	5,000.00	
117,469.34	Permanent (1859), ...	117,469.34	627,888.66

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY FUNDS.

11,579.79	**Hemenway** Fellowship (1891), .	$12,132.16	
28,355.56	**Peabody** Building (1866), ...	28,355.56	
47,335.10	**Peabody** Collection (1866), . . .	47,335.10	
47,529.77	**Peabody** Professor (1866), . . .	47,555.07	
30,164.15	**Thaw** Fellowship (1890), ...	30,173.37	
10,347.01	**Henry C. Warren** Exploration (1899), ...	10,375.56	
5,000.00	**Susan Cornelia Warren** (1902),	5,000.00	
5,418.02	**Robert C. Winthrop** Scholarship (1895), ...	5,671.22	
20,621.90	**Huntington Frothingham Wolcott** (1891), ...	20,675.57	207,273.61

MEDICAL SCHOOL FUNDS.

46,173.58	Medical School (balance), ...	$30,414.50	
11,261.86	**Edward Austin** (Bacteriological Laboratory) (1899), ...	11,093.38	
25,512.68	**Edward M. Barringer** (1881), .	25,512.68	
6,212.24	**J. Ingersoll Bowditch** (1889), .	6,111.37	
$8,599,181.66	. . Amounts carried forward, . . .	$73,131.93	$8,691,716.57

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$8,599,181.66	. . Amounts brought forward, . .	$78,131.93	$8,691,716.57
2,563.14	**Boylston** Fund for Medical Books (1800),	2,161.85	
20,854.68	**John B. & Buckminster Brown** Endowment (1896),	21,349.46	
92,338.38	**Caroline Brewer Croft** (1899),	92,551.59	
380,987.73	**Calvin** and **Lucy Ellis** (1899),	381,845.29	
101,702.24	**George Fabyan** (1896),	101,885.42	
1,836.08	**Samuel E. Fitz** (1884),	1,836.08	
2,500.00	**F. B. Greenough** (Surgical Research) (1901),	2,922.83	
19,192.65	**Jackson** Medical (1859),	19,192.65	
1,759.78	Medical Library (1872),	1,843.73	
52,900.33	**William O. Moseley** (1897),	52,923.66	
38,750.00	New Subscription (1888),	38,750.00	
9,335.94	**Dr. Ruppaner** (1897),	9,335.94	
50,000.00	**Geo. C. Shattuck** (1853),	50,000.00	
5,681.98	Surgical Laboratory (1897),	6,871.42	
15,765.11	**Mary W. Swett** (1884),	15,765.11	
20,000.00	**Samuel W. Swett** (1884),	20,000.00	
2,000.00	**Quincy Tufts** (1879),	2,000.00	
14,441.68	**Warren** Fund for Anatomical Museum (1848),	14,032.96	
41,872.00	**Charles Wilder** (1900),	41,908.00	
34,007.72	**Henry Willard Williams** (1893),	35,629.90	
	Gifts for Anatomical Research (bal.),	509.68	
923.62	Gifts for Pathological Dep't Library (balance),	688.23	
2,890.50	Sundry Gifts (unexpended balances),	1,885.51	
	FELLOWSHIP FUNDS.		
5,345.14	**Geo. Cheyne Shattuck** Memorial (1891),	5,375.10	
5,659.76	**Charles Eliot Ware** Memorial (1891),	5,704.74	
5,302.25	**John Ware** Memorial (1891),	5,330.16	
	SCHOLARSHIP FUNDS.		
5,107.25	**Lucius F. Billings** (1900),	5,150.85	
5,756.04	**D. W. Cheever** (1889),	5,780.60	
3,135.44	**Cotting** Gift (1900),	3,159.98	
2,787.69	**Orlando W. Doe** (1893),	2,820.68	
61.05	**John Foster** income for Medical Students (balance),	151.27	
5,733.47	**Lewis** and **Harriet Hayden** (1894),	5,783.12	
6,466.45	**C. M. Jones** (1893),	6,424.88	
5,332.27	**Alfred Hosmer Linder** (1895),	5,386.61	
	Joseph Pearson Oliver (1904),	8,584.48	
5,642.09	**Charles B. Porter** (1897),	5,711.21	
$9,567,814.12	. . Amounts carried forward, . . .	$1,054,384.92	$8,691,716.57

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$9,567,814.12	. . Amounts brought forward, . . .	$1,054,384.92	$8,691,716.57
4,671.05	**Charles Pratt Strong** (1894), .	4,753.86	
6,393.55	**Isaac Sweetser** (1892), ...	6,548.54	
5,250.26	**John Thompson Taylor** (1899),	5,300.69	
5,354.62	**Edward Wigglesworth** (1897), .	5,410.05	
	PRIZE FUNDS.		
3,685.35	**Boylston** (1803), ...	3,773.63	
6,812.30	**William H. Thorndike** (1895),	7,137.23	1,087,308.92
	MEDICAL SCHOOL UNDERTAKING FUNDS.		
	Robert Bacon, ...	$89,293.73	
104,898.05	**Robert C. Billings** (1900), . . .	109,301.69	
25,375.40	**George Fabyan** (addition of 1903),	26,585.79	
101,563.89	**George Higginson** Professorship (1902), ...	101,908.49	
25,000.00	**Jackson** Professorship (addition of 1902), ...	25,000.00	
	J. Pierpont Morgan Gift, . . .	160,694.91	
370,776.56	**Henry L. Pierce** (1898), ...	388,462.62	
51,267.48	**Proctor** (1903), ...	53,576.58	
863,875.59	**John D. Rockefeller** Gift (1902),	1,071,366.41	
126,629.80	**David Sears** Gift (1902), ...	55,406.28	
26,000.00	**Shattuck** Professorship (addition of 1902), ...	26,000.00	
104,484.98	**Stillman** Professorship (1902), . .	109,468.91	
4,639.40	School of Comparative Medicine (1899),	4,860.68	
5,201.34	Gift for Pathological Laboratory, . .	5,351.52	2,227,277.61
	DENTAL SCHOOL FUNDS.		
29,899.71	Dental School (balance), ...	$30,464.99	
2,255.85	Dental School Endowment (1880), .	2,265.85	
23,000.00	**Henry C. Warren** Endowment (1889),	23,000.00	
20,802.33	Gifts for Building (1892), ...	21,804.73	77,535.57
	OBSERVATORY FUNDS.		
50,357.83	Advancement of Astron. Science (1901),	$50,385.00	
20,641.14	Advancement of Astron. Science (1902),	21,554.91	
11,018.16	Anonymous Gift (1902), ...	8,468.37	
5,000.00	**Thomas G. Appleton** (1884), .	5,000.00	
2,500.00	**J. Ingersoll Bowditch** (1889), .	2,500.00	
200,000.00	**Uriah A. Boyden** (1887), . . .	200,000.00	
248.26	**Draper Memorial** (balance), . .	270.93	
2,000.00	**Charlotte Harris** (1877), ...	2,000.00	
45,000.00	**Haven** (1898), ...	45,000.00	
21,000.00	**James Hayward** (1866), ...	21,000.00	
50,000.00	Observatory Endowment (1882), . .	50,000.00	
50,000.00	**Paine** Professorship (1886), . . .	50,000.00	
$11,943,417.02	. . Amounts carried forward, . .	$456,179.21	$12,083,838.67

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$11,943,417.02	. . Amounts brought forward, . .	$456,179.21	$12,083,838.67
273,932.07	**Robert Treat Paine** (1886), . .	273,932.07	
110,293.88	**Edward B. Phillips** (1849), . .	110,293.88	
12,849.83	**Josiah Quincy** (1866), ...	13,462.77	
37,376.21	**David Sears** (1845), ...	38,267.63	
13,380.00	**Augustus Story** (1871), ...	13,380.00	
132.96	Gift for publishing lunar photographs,	42.35	905,557.91
	BUSSEY INSTITUTION FUNDS.		
27,759.48	**Bussey** Institution (balance), . .	$28,566.18	
22,607.97	Woodland Hill (1895), ...	19,225.38	47,791.56
	ARNOLD ARBORETUM FUNDS.		
123,080.00	**Arnold** Arboretum (1899), ...	$124,095.00	
159,702.10	**James Arnold** (1872), ...	160,082.99	
14,849.48	Arboretum Construction Gifts (bal.), .	19,050.52	
	Robert Charles Billings (1904),	12,500.00	
22,703.59	**William L. Bradley** (1897), . .	23,790.12	
	Bussey Fund for the Arnold Arboretum (1903), ...	2,308.06	341,826.69
	OTHER FUNDS FOR SPECIAL PURPOSES.		
	PHILLIPS BROOKS HOUSE.		
10,506.66	**Phillips Brooks** House Endowment (1901), ...	$10,506.66	
10,969.65	**Ralph H. Shepard** (1900), . . .	11,024.22	
6,173.81	**Ralph H. Shepard** Memorial (1898),	6,468.31	
5,554.95	**John W. and Belinda L. Randall** (1897), ...	5,819.92	
	WILLIAM HAYES FOGG ART MUSEUM.		
222.39	**Fogg** Art Museum (balance), . . .	108.53	
50,000.00	**William Hayes Fogg** (1892), .	50,000.00	
16,458.39	**Gray** Fund for Engravings (1858),	16,248.66	
16,738.33	**William M. Prichard** (1898), .	16,678.30	
33,264.40	**John Witt Randall** (1892), . . .	33,963.98	
	STILLMAN INFIRMARY.		
7,715.17	**Stillman** Infirmary (balance), . .	7,447.10	
50,000.00	**Robert Charles Billings**, for **Stillman** Infirmary (1903), . .	50,000.00	
5,328.63	Free Bed Fund of the **Class of 1868** (1898), ...	5,328.63	
539.38	Free Bed Fund for **Stillman** Infirmary (1900), ...	539.38	
3,000.00	**Herbert Schurz** Memorial Free Bed (1903), ...	3,000.00	
2,645.64	**Henry P. Walcott** (1901), . . .	2,645.64	
$12,980,651.99	. . Amounts carried forward, . .	$219,774.33	$13,379,014.83

Principal, Aug. 1, 1903.		Principal, July 31, 1904.	
$12,980,651.99	. . Amounts brought forward, . .	$219,774.33	$13,379,014.83
	CLASS FUNDS.		
1,309.53	Fund of the **Class of 1834** (1887),	1,364.32	
7,666.96	" " " **1844** (1896),	7,982.63	
3,725.00	" " " **1853** (1887),	3,725.00	
	" " " **1856** (1904),	7,678.87	
	CONSTRUCTION GIFTS.		
48,219.56	Gifts for Improvements and Additions to The Soldier's Field (1901), . .		
421.74	Brighton Marsh Fence (balance), . .	421.74	
117,013.40	**Emerson** Hall, " . .	152,685.01	
1,456.01	Semitic Building, " . .	1,106.29	
2,458.24	**John Simpkins** Hall, " . .	1,232.47	
	George Smith Bequest (1904), .	257,607.87	
50,000.00	**Stillman** Infirmary (Contagious Ward) (balance), ...	69,190.30	
10,000.00	Gift for new University Library Building (balance), ...	20,436.10	
3,222.68	University Museum Building (balance),	1,460.12	
	SUNDRY FUNDS.		
480,556.21	**Edward Austin** (1899), ...	484,189.87	
50,000.00	**Bright** Legacy (1880), ...	50,000.00	
27,910.96	Bursar's Sundry Accounts (balance),	18,470.27	
392,710.18	**Bussey** Trust (1861), ...	392.710.18	
161,035.05	**Calvin** and **Lucy Ellis** Aid (1899),	161,380.99	
3,171.50	**John Foster** (1840), ...	3,171.50	
584,450.18	Gains and Losses for General Investments (1891), ...	585,643.23	
788,865.31	**Price Greenleaf** (1887), ...	788,865.31	
29,939.33	**Henry Harris** (1883), ...	29,939.33	
1,261.78	**Harvard** Memorial Society (1898),	1,321.98	
51,059.99	**Robert Troup Paine** (1880), . .	52,561.44	
42,000.00	**James Savage** (1873), ...	42,000.00	
377.96	Gifts for Cuban Teachers, ...	277.96	
2,494.00	Sundry balances, ...	87.27	3,855,284.38
	FUNDS IN TRUST FOR PURPOSES NOT CONNECTED WITH THE COLLEGE.		
16,642.59	**Daniel Williams** (1716), ...	$16,655.24	
4,901.55	**Sarah Winslow** (1790), ...	4,798.65	21,453.89
$15,863.521.70			$16,755,753.10

Changes in the Funds during the year ending July 31, 1904.

Total amount of Funds and balances, July 31, 1904, as before stated,		$16,755,753.10	
Total amount of Funds and balances, August 1, 1903, as before stated,		15,863,521.70	
Showing a total increase during the year of			$892,231.40
Which is made up as follows: —			
Gifts forming new Funds or increasing old ones,		$633,988.55	
Increase of Funds established during the year,		30,439.54	
Credit balances created,		172,301.64	
Gain from change of investments,		13,028.11	
Increase more than decrease of Funds (excluding the Insurance and Guaranty Fund) and balances, which appear both at the beginning and the end of the year,		122,810.57	
		$972,568.41	
Deduct from this amount			
Sundry balances used up,	$49,593.95		
Decrease of Insurance and Guaranty Fund, by excess of expenditures over income, in University, College, and Library accounts,	30,743.06	80,337.01	$892,231.40

Net increase of Funds and balances as above,	$338,579.86
Less decrease as above,	80,337.01
Leaving amount of the net increase of the Funds and balances, excluding gifts for capital account,	$258,242.85

The following tables are not found, in their present form, in the Treasurer's books. They are intended to exhibit with some detail the resources and the expenditures of each department of the University. Gifts for capital account, gifts for immediate use and the income of every Fund held by the University are given in these tables, and also the sum paid out for the specific object of each and every Fund, in case that sum be either less or more than the actual income of the Fund. If the object to which the income of a Fund is to be applied be a general one, — like salaries, for example, — no separate mention is made in these tables of that appropriation. That particular payment is merged with others of the same kind under the general heading. A balanced summary of these tables will be found on page 104.

TABLE NO. I.

THE UNIVERSITY.

RECEIPTS.

Gifts for capital account.		
Band Music Fund,	$1,143.00	
Henry S. Nourse Bequest,	44,671.45	
Riverside Fund,	6,000.00	$51,814.45
Income of the following Funds: —		
Band Music,	$36.35	
Andrew Bigelow,	236.11	
Stanton Blake,	238.50	
Charlotte F. Blanchard,	227.58	
Samuel D. Bradford,	250.42	
John W. Carter,	596.25	
Thomas Cotton,	7.39	
John Cowdin,	1,613.93	
George B. Dorr,	4,927.20	
George Draper,	2,058.91	
Robert H. Eddy,	2,708.74	
Harvard Ellis,	4,828.48	
J. D. W. French,	253.86	
Gore,	981.24	
John C. Gray,	1,062.20	
Henry Harris (½ income),	714.05	
Walter Hastings,	1,214.51	
George Baxter Hyde,	238.50	
Insurance and Guaranty,	3,734.08	
Leonard Jarvis,	804.78	
Henry P. Kidder,	477.00	
Joseph Lee,	424.88	
Theodore Lyman,	477.00	
Israel Munson,	751.28	
Henry S. Nourse (part),	434.49	
Francis E. Parker,	4,835.89	
Amounts carried forward,	$34,133.57	$51,814.45

TABLE NO. I, THE UNIVERSITY, CONTINUED.

RECEIPTS.

Amounts brought forward,		$34,133.57	$51,814.45
Income of the following Funds (*continued*): —			
William Perkins,		1,431.00	
Henry L. Pierce Residuary (part),		2,646.16	
President's,		3,033.63	
Retiring Allowance,		17,478.09	
John L. Russell,		1,114.75	
Isaac Sweetser,		2,237.75	
Seth Turner,		238.50	
Henry Villard,		2,290.11	
William F. Weld,		4,248.81	68,852.37
Balance remaining after dividing the net income among the Funds,		$656.05	
Care of the **Sarah Winslow** Fund,		5.85	
Sale of catalogues, calendars, directories, &c.,		1,103.86	
" sand,		226.58	
Use of houses by College officers,		1,500.00	
Use of land by **Harvard** Union,		1,260.00	
Gifts for St. Louis Exposition expenses,		930.00	
" fences in College Yard, for Commencement Day,		205.00	
Unrestricted gift,		25.00	
Part of appropriation for exhibition cases returned,		30.50	5,942.84
William Hayes Fogg Art Museum.			
Income of Funds.			
William Hayes Fogg Art Museum, balance,		$10.59	
William Hayes Fogg,		2,385.00	
Gray Fund for Engravings.			
Interest,	$785.05		
Sale of Catalogues,	5.00	790.05	
William M. Prichard,		798.40	
John Witt Randall,		1,586.69	
Mary R. Searle,		90.77	
		$5,661.50	
Sale of photographs and catalogue,		16.60	5,678.10
Semitic Museum.			
Income of Gifts for Semitic Collection,			340.07
Germanic Museum.			
Gift for opening on Sundays,			175.00
Phillips Brooks House.			
Income of Funds.			
Phillips Brooks House Endowment,		$501.18	
Ralph H. Shepard,		523.27	
Ralph Hamilton Shepard Memorial,		294.50	1,318.95
Amount carried forward,			$134,121.78

TABLE NO. I, THE UNIVERSITY, CONTINUED.

RECEIPTS.

Amount brought forward,		$134,121.78
Stillman Infirmary.		
Income of Funds.		
Robert Charles Billings,	$2,385.00	
Free Bed Fund of the **Class of 1868,**	254.19	
Free Bed Fund for **Stillman** Infirmary,	25.71	
Herbert Schurz Memorial Free Bed,	143.10	
Stillman Infirmary,	337.53	
Henry P. Walcott,	126.21	
Samuel Ward (part),	665.43	
	$3,937.17	
Receipts from Students,	6,588.76	10,525.93
		$144,647.71

PAYMENTS.

Overseers' Expenses.			
Printing President's Annual Report,		$1,058.89	
" Treasurer's " "		338.38	
" other reports, ballots, etc.,		173.40	
Advertising,		97.09	
Auditing Treasurer's accounts,		150.00	
Other expenses,		26.57	$1,844.33
Office Expenses.			
President's,			
Clerical services,	$802.64		
Other expenses,	590.49	$1,393.13	
Treasurer's,			
Clerical services,	$1,381.50		
Rent of safes,	775.00		
Other expenses,	810.41	2,966.91	
Bursar's,			
Clerical services,	$3,793.49		
Other expenses,	1,303.96	5,097.45	
Publication Agent's,			
Clerical and other services,	$1,671.20		
Other expenses,	890.61	2,561.81	
Inspector of Grounds and Buildings',			
Clerical and other services,	$865.00		
Other expenses,	199.38	1,064.38	
Janitor's,		48.89	
Corporation Rooms (fuel, rent, &c.),		2,545.99	15,678.56
Amount carried forward,			$17,522.89

Table No. I, The University, continued.

PAYMENTS.

Amount brought forward,			$17,522.89
Salaries.			
President,			
From the University,	$6,000.00		
" President's Fund,	2,979.85		
" Thomas Cotton Fund,	7.25	$8,987.10	
Treasurer,		6,000.00	
Comptroller,		5,000.00	
Bursar,		4,000.00	
Assistant Bursar,		2,000.00	
Secretary to the President,		2,500.00	
Secretary of the Board of Overseers,		200.00	
Commencement Marshal,		100.00	
Chairman of the Appointment Committee,		2,079.17	
Publication Agent,		2,500.00	
Inspector of Grounds and Buildings,		2,000.00	
Clerks, Treasurer's office,		3,800.00	
Bursar's Assistant,		1,800.00	40,966.27
Retiring Allowances.			
From Retiring Allowance Fund,		$17,478.09	
" University income,		203.69	17,681.78
Memorial Hall and Sanders Theatre.			
Repairs,		$135.39	
Insurance,		508.17	
Fuel, lighting, furniture, cleaning, &c.,		254.90	
Work on windows,		507.65	1,406.11
General Expenses.			
Repairs and improvements,		$2,425.98	
Labor,		6,214.19	
Watering streets and driveways,		481.50	
Telephone tolls and rentals,		57.26	
Advertising,		85.00	
Insurance,		40.00	
Watchmen,		2,732.12	
Commencement Day expenses,		481.63	
Annual Catalogue,		2,719.94	
Calendar,		219.35	
Plank walks,		152.60	
Driveways and gravel walks,		134.53	
Fence painting, construction, and repairs,		537.74	
Diplomas,		28.50	
Legal services and expenses,		111.16	
Receptions,		232.69	
Amounts carried forward,		$16,654.19	$77,577.05

TABLE NO. I, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amounts brought forward, ...		$16,654.19	$77,577.05
General Expenses (*continued*).			
Conference, Association of American Universities, .		40.00	
Mercantile agency, ...		850.00	
Taxes on **Harvard** Union, ...	$4,309.50		
Less repaid by **Harvard** Union, .	4,309.50	.	
Renewing Watchman's clock line, ...		353.76	
St. Louis Exposition expenses, ...		5,626.77	
Freight, supplies, and sundries, ...		293.98	23,818.70
Payments made from University income on the following accounts: —			
Phillips Brooks House, ...		$1,702.61	
William Hayes Fogg Art Museum, ...		2,652.54	
Peabody Museum of American Archaeology and Ethnology, ...		1,295.31	
Semitic Museum. Curator, ...	$500.00		
Expenses, ...	1,284.84	1,784.84	
Germanic Museum, Expenses, ...		1,042.09	
Stillman Infirmary, Expenses, ...		1,331.31	
School of Veterinary Medicine.			
Gas, ...	$24.00		
Less hospital fees received, ...	20.57	3.43	9,812.13
William Hayes Fogg Art Museum.			
Payments of $2,652.54, made from University income as above stated, and payments from the income of Funds as follows: —			
William Hayes Fogg, Director, .	$500.00		
Collections and expenses, ...	1,885.00	$2,385.00	
Gray Fund for Engravings, Curator, .	$250.00		
Collections, ...	612.26		
Expenses, ...	142.52	1,004.78	
William M. Prichard, collections, ...		858.43	
John Witt Randall, Curator, . . .	$250.00		
Collections, ...	208.80		
Expenses, ...	428.31	887.11	
Mary R. Searle, books, ...		63.20	
From balance and sundry receipts, ...		141.05	5,339.57
Semitic Museum.			
Payments of $1,784.84, made from University income, as above stated, and payments from gifts for Semitic Collection, amounting to			6,308.77
Germanic Museum.			
Payments of $1,042.09, made from University income, as above stated, and payments from gift for opening on Sundays, .			175.00
Amount carried forward, ...			$123,031.22

TABLE NO. 1, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amount brought forward, ...		$123,031.22
Phillips Brooks House.		
Payments of $1,702.61, made from University income as above stated, and payments for furniture, receptions, &c., from the income of Funds as follows:—		
Phillips Brooks House Endowment, ...	$501.18	
Ralph H. Shepard, ...	468.70	969.88
Stillman Infirmary.		
Payments of $1,331.31 made from University income as above stated, and payments from the income of Funds, as follows:—		
Robert Charles Billings, ...	$2,385.00	
Free Bed Fund of the **Class of 1868,**	254.19	
" " for **Stillman** Infirmary, . . .	25.71	
Herbert Schurz Memorial Free Bed, ...	143.10	
Stillman Infirmary, ...	337.53	
Henry P. Walcott, ...	126.21	
Samuel Ward, ...	665.43	
	$3,937.17	
From receipts from students, ...	6,588.76	10,525.93
		$134,527.03

TABLE NO. II.

THE COLLEGE.

RECEIPTS.

Gifts for Capital Account.		
Francis Boott Fund, ...	$10,000.00	
Borden Scholarship Fund (additional), ...	170.00	
Asa Gray Memorial Fund (additional), ...	100.00	
George Silsbee and **Ellen Sever Hale** Fund,	5,000.00	
Lectures on Political Economy Fund (additional), .	35.00	
Arthur T. Lyman Fund, ...	25,000.00	
Music Department Fund, ...	1,003.40	
The Philadelphia Scholarship Fund, ...	10,100.00	
Swift Scholarship Fund (additional), ...	1,000.00	
David Ames Wells Fund (additional), ...	944.41	
Jerome Wheelock Fund, ...	10.00	
Josiah Dwight Whitney Scholarship Fund, .	5,000.00	
Mary L. Whitney Scholarship Fund (additional),	1,194.50	$59,557.31
Amount carried forward, ...		$59,557.31

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward, ...			$59,557.31
Income of Funds for Instruction, and Gifts for Salaries.			
Alford Professorship, ...		$1,323.63	
John B. Barringer, ...		1,468.77	
Boylston Professorship, ...		1,351.67	
Class Subscription, ...		7,176.28	
Paul Dudley, ...		165.04	
Eaton Professorship (part), ...		4,587.52	
Eliot Professorship, ...		1,031.23	
Eliot " (Jon. **Phillips'** Gift), . .		350.00	
Calvin and **Lucy Ellis** Aid (part), ...		3,472.79	
Erving Professorship, ...		166.95	
Fisher "		1,716.77	
Henry Flynt, ...		19.65	
Fund for Permanent Tutors, ...		774.65	
Godkin Lecture, ...		583.37	
Gospel Church (½ income), ...		154.36	
Asa Gray Professorship, ...		1,028.21	
Gurney (part), ...		8,321.44	
Hersey Professorship (⅗ income), ...		578.61	
Hollis " (Divinity), ...		1,646.51	
Hollis " (Mathematics), ...		178.74	
Ingersoll Lecture, ...		283.39	
Abbott Lawrence, ...		2,935.27	
James Lawrence, ...		2,402.89	
Lectures on Political Economy, ...		503.43	
Henry Lee Professorship, ...		5,168.01	
Thos. Lee, for Hersey Professorship, ...		1,037.19	
Thos. Lee, for Reading, ...		753.52	
McLean Professorship, ...		2,054.11	
William Belden Noble Lectures.			
Interest, ...	$1,079.26		
Sales, ...	1.00	1,080.26	
Daniel H. Peirce, ...		673.95	
Perkins Professorship, ...		1,001.70	
Plummer "		1,193.45	
Pope "		2,504.25	
Professorship of Engineering, ...		1,946.45	
Professorship of Hygiene (part), ...		6,795.59	
Nelson Robinson Jr. (part), ...		9,950.00	
Arthur Rotch, ...		1,192.50	
Rumford Professorship, ...		2,688.80	
Gurdon Saltonstall, ...		2,862.00	
Smith Professorship, ...		1,103.78	
Josiah Stickney, ...		611.08	
Amounts carried forward, ...		$84,827.76	$59,557.31

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, ...	$84,827.76	$59,557.31
Income of Funds for Instruction, and Gifts for Salaries (*continued*).		
Unknown Memorial (part), ...	3,018.84	
Wales Professorship (part), ...	1,500.00	
Henry C. Warren (part), ...	4,300.00	
Sylvester Waterhouse, ...	266.83	
Jerome Wheelock, ...	.38	
Gifts for salaries and lectures, ...	2,575.00	96,483.81
Income of Fellowship Funds, and Gifts for Fellowships.		
Edward Austin (part), ...	$2,000.00	
Austin Teaching (part), ...	10,000.00	
Cercle Français de l'Université **Harvard** (gift), .	700.00	
George W. Dillaway, ...	240.84	
Ozias Goodwin Memorial, ...	535.77	
Harris, ...	517.26	
Indic Philology (Henry C. Warren Fund (part)), ...	200.00	
John Thornton Kirkland, ...	524.18	
Henry Lee Memorial, ...	554.80	
Charles Eliot Norton, ...	600.00	
Robert Treat Paine, ...	608.08	
John Parker, ...	2,722.71	
Nelson Robinson Jr., ...	1,000.00	
Rogers, ...	1,561.22	
Henry Bromfield Rogers Memorial, ...	547.21	
South End House (gifts), ...	550.00	
John Tyndall, ...	589.57	
James Walker, ...	545.40	
Whiting, ...	1,087.80	25,084.84
Income of Scholarship Funds, and Gifts for Scholarships.		
Abbot, ...	$181.26	
Alford (accumulating), ...	94.85	
Austin (part), Architecture, ...	600.00	
Austin (part), Landscape Architecture, ...	300.00	
Austin (part), for Teachers, ...	2,000.00	
Bartlett, ...	256.57	
Bassett, ...	271.39	
Bigelow, ...	623.24	
Borden (accumulating), ...	115.91	
Bowditch, ...	5,417.43	
Bright, ...	1,390.64	
Browne, ...	184.12	
Morey Willard Buckminster, ...	248.27	
Amounts carried forward, ...	$11,683.68	$181,125.96

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	$11,623.68	$181,125.96
Income of Scholarship Funds, and Gifts for Scholarships (*continued*).		
Burr,	1,582.73	
Ruluff Sterling Choate,	291.92	
Class of 1802,	394.62	
" **1814**,	151.92	
" **1815 (Kirkland)**,	311.19	
" **1817**,	216.74	
" **1828**,	166.48	
" **1835**,	234.16	
" **1841**,	243.65	
" **1852 (Dana)**,	243.60	
" **1856**,	750.56	
" **1867**,	224.81	
" **1877**,	241.60	
" **1883**,	267.27	
Crowninshield,	566.81	
Warren H. Cudworth (gift),	600.00	
Francis H. Cummings,	270.89	
George and **Martha Derby**,	264.26	
Julius Dexter,	239.84	
Orlando W. Doe,	132.89	
Education (gift),	500.00	
William Samuel Eliot,	261.73	
George H. Emerson (from Trustee),	1,000.00	
Joseph Eveleth (part),	1,268.87	
Fall River,	102.36	
Farrar,	298.60	
Richard Augustine Gambrill,	543.02	
Charles Haven Goodwin,	363.38	
Benjamin D. Greene,	202.15	
Price Greenleaf,	3,000.00	
Harvard Club of Buffalo (gift),	200.00	
John Appleton Haven,	481.24	
William Hilton (part),	767.15	
Ebenezer Rockwood Hoar,	512.77	
Levina Hoar, for the town of Lincoln,	300.08	
Hodges (part),	282.91	
Hollis,	296.88	
Henry B. Humphrey,	518.88	
Hennen Jennings,	510.77	
C. L. Jones,	1,452.70	
Lawrence Scientific School Association (gift),	150.00	
George Emerson Lowell,	493.22	
Amounts carried forward,	$32,526.33	$181,125.96

Table No. II, The College, continued.

RECEIPTS.

Amounts brought forward, ...		$32,526.33	$181,125.96
Income of Scholarship Funds, and Gifts for Scholarships (*continued*).			
Markoe, ...		244.08	
Matthews (½ net rents of Hall), ...		4,940.27	
William Merrick, ...		291.30	
Morey, ...		393.05	
Lady Mowlson, ...		275.42	
Howard Gardner Nichols, ...		267.60	
Lucy Osgood (accumulating), ...		262.25	
George Foster Peabody, ...		307.16	
Pennoyer, ...		297.21	
Perkins, ...		205.30	
Philadelphia, ...		160.61	
Wendell Phillips, ...		72.84	
Ricardo Prize (gift), ...		350.00	
Rodger, ...		52.99	
Henry Bromfield Rogers, ...		166.19	
Edward Russell, ...		272.27	
Sales, ...		267.31	
Saltonstall, ...		529.80	
Leverett Saltonstall, ...		404.26	
Mary Saltonstall, ...		328.89	
Savage, ...		300.00	
Sever, ...		156.98	
Sewall, ...		520.65	
Shattuck, ...		2,348.03	
Slade, ...		287.63	
Dunlap Smith, ...		200.00	
Story, ...		213.36	
Stoughton, Use of pasture, ...	$100.00		
Interest, ...	71.64	171.64	
Summer School in Geology (gifts), ...		600.00	
Swift, ...		140.05	
Thayer (part), ...		3,728.73	
Gorham Thomas, ...		200.58	
Toppan, ...		364.43	
Townsend, ...		1,223.07	
Walcott, ...		231.25	
Christopher M. Weld, ...		501.52	
Jacob Wendell, ...		253.72	
Whiting, ...		556.51	
Mary L. Whitney, ...		519.29	
Anonymous Gift for Scholarship use, ...		100.00	55,232.57
Amount carried forward, ...			$236,358.53

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward, ...			$236,358.53
Income of Beneficiary and Loan Funds, and Repayments.			
Rebecca C. Ames, ...		$2,404.22	
Nathaniel Appleton, ...		26.19	
Edward Austin (part), ...		2,426.36	
Edward Austin Loans (L. S. S.), repayments, .		431.23	
Frank Bolles Memorial, ...		84.19	
William Brattle, ...		71.88	
Thomas Danforth, ...		46.79	
Moses Day, ...		259.92	
Calvin and **Lucy Ellis** Aid (part), ...		3,100.00	
John Ellery, ...		18.70	
Exhibitions, ...		63.58	
Thomas Fitch, ...		35.11	
Ephraim Flynt, ...		20.18	
Henry Flynt, ...		7.01	
Henry Gibbs, ...		20.99	
John Glover, ...		138.95	
Price Greenleaf Aid (balance), ...		17,085.53	
Edward Holyoke, ...		16.36	
Robert Keayne, ...		111.14	
Bertram Kimball, ...		1,192.50	
Lawrence Scientific School Loans, repayments, .		1,284.94	
Mary Lindall, ...		45.98	
Susan B. Lyman, ...		272.65	
Anne Mills, ...		9.83	
Munroe, ...		517.78	
Palfrey Exhibition, ...		96.45	
Dr. Andrew P. Peabody Memorial, ...		220.23	
Scholarship and Beneficiary Money Returned.			
Loans and Scholarships repaid, ...		2,017.40	
Joseph Sewall, ...		9.35	
Alexander W. Thayer (part), ...		213.61	
Quincy Tufts, ...		532.09	
Benjamin Wadsworth, ...		12.64	
Samuel Ward (part), ...		73.87	
Stuart Wadsworth Wheeler.			
Interest, ...	$253.14		
Loans repaid, ...	204.80	457.94	33,325.59
Income of Prize Funds, and gifts for prizes.			
James Gordon Bennett, ...		$71.22	
Francis Boott, ...		134.23	
Bowdoin Prizes for Dissertations, ...		1,440.11	
Boylston Prizes for Elocution, ...		167.19	
Coolidge Debating, ...		249.85	
Amounts carried forward, ...		$2,062.60	$269,684.12

TABLE No. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, ...		$2,062.60	$269,684.12
Income of Prize Funds, etc. (*continued*).			
Edward Hopkins Gift for "Deturs."			
From Trustees, ...	$206.32		
Interest on unexpended balance, . . .	93.21	299.53	
Sales, ...		53.23	
John O. Sargent, ...		121.40	
George B. Sohier (part), ...		250.00	
Charles Sumner, ...		161.46	
Robert N. Toppan, ...		176.44	
Philip Washburn, ...		105.66	
David Ames Wells, ...		5,045.57	8,275.89
Income of Funds for General Purposes.			
J. W. P. Abbot (accumulating), ...		$446.62	
John A. Blanchard, ...		50.08	
Jonathan Phillips, ...		1,502.55	
Charles L. Hancock (part), ...		139.56	2,138.81
Income of Sundry Funds for Special Purposes.			
Edward Austin (part) appropriation, ...		$50.00	
Botanic Department, ⅔ for Cryptogamic Herbarium,		474.38	
" " ⅓ for Laboratories of Botany,		237.19	
Francis James Child Memorial, ...		535.39	
Classical Publication Fund of the **Class of 1856,**			
Interest, ...	$338.91		
Sales, ...	129.77	468.68	
T. Jefferson Coolidge, for Research in Physics,		2,535.58	
George A. Gardner, ...		266.17	
George Silsbee and **Ellen Sever Hale,** . .		39.73	
Harvard Oriental Series, ...		718.70	
Joseph Lovering, for Physical Research, . . .		380.07	
Musical Department, ...		45.89	
Nelson Robinson Jr. (part), ...		8,000.50	
George W. Sawin, ...		211.07	
John E. Thayer, ...		786.29	
Elizabeth Torrey, ...		56.91	
Henry Warren Torrey. Interest, . .	$531.47		
Sales, . . .	157.34	688.81	
Unknown Memorial (part), ...		1,800.00	
Cyrus M. Warren, ...		313.77	
Henry C. Warren (part), ...		1,282.62	
Chauncey Wright, ...		47.22	18,938.97
Appleton Chapel.			
Income of Fund for Religious Services, ...		$49.32	
" **Increase Sumner Wheeler** Fund, .		2,385.00	2,434.32
Jefferson Physical Laboratory.			
Interest on unexpended balance, ...		$103.89	
Income of Endowment, ...		3,577.50	3,681.39
Amount carried forward, ...			$305,153.50

TABLE No. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward,			$305,153.50
Botanic Garden and Botanic Museum.			
Income of Botanic Department Fund (⅝ income),		$1,185.94	
" **Lowell** Fund,		3,167.61	
" **John L. Russell** Fund (part),		23.85	
" Gifts for Cases,		28.27	
Use of house,		700.00	
Gifts for present use,		2,500.00	7,605.67
Gray Herbarium.			
Income of balance,		$90.63	
" **Robert C. Billings** Fund,		715.50	
" **Asa Gray** Memorial Fund,		1,551.11	
" Herbarium Fund,		985.29	
" **John L. Russell** Fund (part),		71.55	
Asa Gray's copyrights,		829.14	
Sale of publications,		57.75	
" duplicate books and pamphlets,		25.00	
" contributions,		3.10	
" check lists,		.66	
Commission on sales of Sullivant's Icones,		6.41	
Gifts for present use,		5,250.00	9,586.14
Sundry Gifts.			
For Department of Architecture.			
Gifts for equipment,	$10,000.00		
Interest,	204.65	$10,204.65	
Gift for a painting,	$1,000.00		
Interest,	10.63	1,010.63	
For Department of Chemistry. Gift,	$1,000.00		
Interest,	6.54	1,006.54	
" " " The Classics, gifts,	$150.00		
Sales of publications,	258.13	408.13	
" " " Education, gifts,		446.43	
" " " Engineering. Gift,	$2,000.00		
Interest,	14.10	2,014.10	
" " " French,		12.35	
" " " Geology and Geography, for lantern slides,		200.00	
" " " Geology and Geography, exhibition rooms,		100.00	
" " " Mathematics, for books,		15.00	
" " " Political Economy.			
Maps and charts, interest,		2.86	
Books and materials, gifts,		175.00	
" " " Sanskrit, sales of publications,		88.78	
" Equipment for the course in Forestry,		200.00	
Amounts carried forward,		$15,884.47	$322,345.31

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward, ...			$15,884.47	$322,345.31
Sundry Gifts (*continued*).				
For Sugar-cane investigations. Interest, ...			17.95	
" Semitic Library. Interest, ...			18.63	
" Plantations in the College Yard. Interest, . .			74.48	
" Ethics of the Social Questions.				
Gift, ...		$2,500.00		
Interest, ...		70.26	2,570.26	
" Bermuda Biological Station.				
Gifts, ...		$1,000.00		
Use of cuts, ...		8.00		
Interest, ...		6.22	1,014.22	
" Research in Experimental Phonetics, ...			30.00	19,610.01
Receipts from Students.				
Tuition fees, regular courses, ...			$435,541.16	
" " Summer Schools, ...			25,151.67	
Examination fees.				
Admission, ...		$4,555.00		
Condition, ...		540.00	5,095.00	
Graduation fees, ...			9,320.00	
Laboratory fees.				
Botany, ...		$1,297.50		
Chemistry, ...		14,108.93		
Engineering, ...		1,930.60		
Geology, ...		975.00		
Hygiene, ...		915.00		
Mineralogy, ...		700.00		
Mining and Metallurgy, ...		2,205.67		
Philosophy, ...		80.00		
Physics, ...		4,870.00		
Zoölogy, ...		1,015.00	28,097.70	
Hemenway Gymnasium, use of lockers, ...			3,478.00	
College dormitories, ...		$102,227.13		
Less the following items: —				
Receipts from dormitories belonging to University Houses and Lands account, ...	$21,364.63			
One-half net income from Matthews Hall, credited under income of Scholarship Funds, &c., . . .	4,940.27	26,304.90	75,922.23	
Summer Camp, Engineering, ...			10,086.40	592,692.16
Amount carried forward, ...				$934,647.48

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward,		$934,647.48
Sundries.		
Use of rooms by College Society,	$1,260.00	
" **Hemenway** Gymnasium by graduates and others,	112.29	
Sale of tickets to Commencement Dinner,	678.00	
" hymn books,	48.50	
" Annals of Mathematics,	394.92	
" Hand-book of American History,	461.48	
" Elementary Exercises in Physics,	294.96	
" **Harvard** Psychological Review,	366.00	
" other publications,	1,166.23	
" old examination papers,	442.62	
" wood,	90.00	
Sundry repayments,	3,166.82	8,481.82
		$943,129.30

PAYMENTS.

From Fellowship Funds and Gifts.		
Edward Austin,	$2,000.00	
Austin, Teaching,	10,000.00	
Cercle Français de l'Université **Harvard,**	600.00	
Ozias Goodwin Memorial,	450.00	
Harris,	500.00	
Indic Philology,	500.00	
John Thornton Kirkland,	450.00	
Henry Lee Memorial,	675.00	
Charles Eliot Norton,	900.00	
Robert Treat Paine,	500.00	
John Parker,	2,450.00	
Nelson Robinson Jr.,	1,000.00	
Rogers,	1,812.50	
Henry Bromfield Rogers Memorial,	450.00	
South End House,	540.00	
John Tyndall,	1,125.00	
James Walker,	750.00	
Whiting,	800.00	$25,502.50
From Scholarship Funds and Gifts.		
Abbot,	$200.00	
Austin, Architecture,	600.00	
Austin, Landscape Architecture,	300.00	
Austin, for Teachers,	2,000.00	
Bartlett,	250.00	
Bassett,	270.00	
Amounts carried forward,	$3,620.00	$25,502.50

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward,	$3,620.00	$25,502.50
From Scholarship Funds and Gifts (*continued*).		
Bigelow,	583.34	
Bowditch,	5,250.02	
Bright,	1,066.66	
Browne,	150.00	
Morey Willard Buckminster,	200.00	
Burr,	1,200.00	
Ruluff Sterling Choate,	275.00	
Class of 1802,	325.00	
" **1814,**	125.00	
" **1815 (Kirkland),**	166.66	
" **1817,**	116.66	
" **1828,**	100.00	
" **1835,**	116.66	
" **1841,**	200.00	
" **1852 (Dana),**	200.00	
" **1856,**	700.00	
" **1867,**	175.00	
" **1877,**	200.00	
" **1883,**	200.00	
Crowninshield,	375.00	
Warren H. Cudworth,	500.00	
Francis H. Cummings,	200.00	
George and **Martha Derby,**	166.66	
Julius Dexter,	175.00	
O. W. Doe,	100.00	
William Samuel Eliot,	250.00	
George H. Emerson,	525.00	
Joseph Eveleth,	1,066.66	
Fall River,	53.34	
Farrar,	250.00	
Richard Augustine Gambrill,	450.00	
Charles Haven Goodwin,	300.00	
Benjamin D. Greene,	100.00	
Price Greenleaf,	3,000.00	
Harvard Club of Buffalo,	133.34	
John Appleton Haven,	400.00	
Hilton,	375.00	
Ebenezer Rockwood Hoar,	400.00	
Levina Hoar, for the town of Lincoln,	250.00	
Hodges,	250.00	
Hollis,	225.00	
Henry B. Humphrey,	525.00	
Amounts carried forward,	$25,040.00	$25,502.50

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward, ...	$25,040.00	$25,502.50
From Scholarship Funds and Gifts (*continued*).		
Hennen Jennings, ...	400.00	
C. L. Jones, ...	1,133.34	
Lawrence Scientific School Association, ...	50.00	
George Emerson Lowell, ...	400.00	
Markoe, ...	150.00	
Matthews, ...	4,900.00	
William Merrick, ...	225.00	
Morey, ...	325.00	
Lady Mowlson, ...	225.00	
Howard Gardner Nichols, ...	183.34	
George Foster Peabody, ...	250.00	
Pennoyer, ...	75.00	
Rebecca A. Perkins, ...	150.00	
Wendell Phillips Memorial, ...	66.66	
Ricardo Prize, ...	350.00	
Henry Bromfield Rogers, ...	150.00	
Edward Russell, ...	225.00	
Sales, ...	233.34	
Saltonstall, ...	425.00	
Leverett Saltonstall, ...	325.00	
Mary Saltonstall, ...	300.00	
Savage, ...	300.00	
Sever, ...	150.00	
Sewall, ...	400.00	
Shattuck, ...	2,300.00	
Slade, ...	166.66	
Dunlap Smith, ...	133.34	
Story, ...	175.00	
Stoughton, ...	95.00	
Summer Scholarships in Geology, ...	600.00	
Thayer, ...	3,100.00	
Gorham Thomas, ...	150.00	
Toppan, ...	300.00	
Townsend, ...	1,250.00	
Walcott, ...	183.34	
Christopher M. Weld, ...	400.00	
Jacob Wendell, ...	200.00	
Whiting, ...	450.00	
Mary L. Whitney, ...	300.00	
University, Graduate School, ...	1,550.00	
" Lawrence Scientific School, ...	1,250.00	
Normal, " " "	500.00	49,435.02
Amount carried forward, ...		$74,937.52

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward, ...			$74,937.52
From Beneficiary and Loan Funds.			
Rebecca C. Ames, ...		$2,285.00	
Edward Austin.			
Loans to L. S. S. students, ...	$1,785.00		
" Special "	641.36	2,426.36	
Edward Austin Loans (L.S.S.), from repayments,		465.40	
Frank Bolles Memorial, ...		35.00	
Moses Day, ...		259.92	
Calvin and **Lucy Ellis** Aid, ...		3,100.00	
Exhibitions, ...		63.58	
Price Greenleaf Aid, ...		15,317.97	
Bertram Kimball, ...		195.02	
Lawrence Scientific School Loans Repaid, . . .		1,380.60	
Munroe, ...		466.29	
Palfrey Exhibition, ...		80.00	
Dr. Andrew P. Peabody Memorial, ...		115.00	
Quincy Tufts, ...		532.09	
Stuart Wadsworth Wheeler, ...		150.00	
Samuel Ward, special food for sick students, .		73.87	
Scholarship and Beneficiary money returned, . . .		1,194.76	28,140.86
From Prize Funds.			
James Gordon Bennett, ...		$40.00	
Bowdoin Prizes for Dissertations, ...		795.75	
Boylston Prizes for Elocution, ...		255.00	
Coolidge Debating, ...		200.00	
Dante, ...		50.00	
Edward Hopkins Gift for "Deturs,"		450.84	
Sales, ...		90.00	
John O. Sargent, ...		100.00	
George B. Sohier, ...		250.00	
Robert N. Toppan, ...		150.00	
Philip Washburn, ...		150.00	2,531.59
From Sundry Funds for Special Purposes.			
Edward Austin, appropriation, ...		$50.00	
Francis James Child Memorial, books, . . .		478.91	
T. Jefferson Coolidge, research in Physics, . .		2,212.87	
Classical Publication Fund of the **Class of 1856.**			
Harvard Studies in Classical Philol., .	$999.30		
Interest on advances, ...	30.78	1,030.08	
George A. Gardner, photographs, etc., for Department of Geology, ...		211.50	
Harvard Oriental Series, publications, ...		785.50	
Joseph Lovering, research in Physics, ...		431.90	
Amounts carried forward, ...		$5,200.76	$105,609.97

Table No. II, The College, continued.

PAYMENTS.

Amounts brought forward,		$5,200.76	$105,609.97
From Sundry Funds for Special Purposes (*continued*).			
George W. Sawin, books for Department of Mathematics,		99.44	
Barthold Schlesinger, books for Department of German,		31.72	
John E. Thayer, Quarterly Journal of Economics,		804.93	
Elizabeth Torrey, books for Department of History,		143.32	
Henry Warren Torrey, publications,		566.05	
Unknown Memorial, services and expenses,		1,539.05	
Cyrus M. Warren, research in Chemistry,		464.93	
Chauncey Wright, books for Department of Mathematics,		9.31	
Henry C. Warren, publications,		2,175.35	
Nelson Robinson Jr.			
Expenses of **Nelson Robinson Jr.** Hall,	$6,211.24		
Expenses in Department of Architecture,	1,772.99		
Expenses in Department of Landscape Architecture,	16.27	8,000.50	19,035.36
Appleton Chapel.			
Preaching and morning services,		$3,287.05	
Organist and Choir-master,		2,000.00	
Choir,		1,600.00	
Music and binding,		315.65	
Repairs and improvements,		131.71	
Fuel, gas, cleaning, &c.,		1,029.19	
Furniture,		14.68	
Repairing Organ,		47.00	8,425.28
Jefferson Physical Laboratory.			
Repairs and improvements,		$98.71	
Laboratory expenses,		4,637.57	
		$4,736.28	
Less amounts paid by the College (included among expenses on College Public Buildings), for			
Repairs and improvements,	$25.86		
Laboratory expenses,	600.00	625.86	
Payments from the income of the Endowment,			4,110.42
Hemenway Gymnasium.			
Salaries and wages,	$4,538.75		
Repairs and improvements,	274.91		
Amounts carried forward,	$4,813.66		$137,181.03

TABLE No. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward, . .	$4,813.66		$137,181.03
Hemenway Gymnasium (*continued*).			
Janitors and cleaning, ...	2,476.23		
Fuel, ...	910.69		
Apparatus, ...	350.00		
Insurance, ...	256.48		
Water, ...	247.84		
Lighting, ...	688.80		
Printing, ...	75.50		
Furniture, ...	2.40		
Stationery and postage, ...	41.87		
Telephone, ...	51.49		
Supplies and sundries, ...	49.63	$9,964.59	
Less amount received from other departments, .		1,312.06	8,652.53
Botanic Garden and Botanic Museum.			
Salaries, labor, repairs, materials, &c., ...		$7,595.61	
Interest on advances, ...		344.90	
Cases, from gift, ...		38.10	7,978.61
Gray Herbarium.			
Salaries, ...		$5,200.00	
Labor, repairs, materials, &c., ...		3,987.31	
Books and binding, ...		959.54	
Outlines of Botany, ...		400.00	10,546.85
Summer Schools.			
Salaries, ...		$20,530.14	
Secretary, ...		600.00	
Clerical services, ...		100.00	
Repairs and improvements, ...		9.59	
Janitors and cleaning, ...		154.16	
Fuel, ...		13.50	
Water, ...		23.43	
Printing, ...		815.10	
Furniture, ...		12.00	
Instruments and apparatus, ...		45.24	
Stationery and postage, ...		296.34	
Advertising, ...		531.20	
Services and wages, ...		533.28	
Remission of fees for instruction, ...		150.00	
Geological and Geographical courses, expenses, . .		232.13	
Reception, ...		165.00	
Travelling expenses, ...		60.00	
Engrossing certificates, ...		15.00	
Restaurant expenses, ...		1,303.91	
Supplies, materials, and sundries, ...		353.50	25,943.52
Amount carried forward, ...			$190,302.54

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward, ...			$190,302.54
From Special Gifts.			
For Department of Architecture, books, casts, &c.,		$5,550.80	
" " Botany, sugar-cane investigation,		104.75	
" " Chemistry, books and improvements, ...		693.13	
" " The Classics, books, ...		394.57	
" " Education, books, ...		492.40	
" " Engineering, electrical apparatus and equipment, ...		3,784.27	
" " French, books, ...		12.35	
" " Geology and Geography, new lantern, ...		6.43	
" " Geology and Geography, lantern slides, ...		154.00	
" " German, books, ...		14.66	
" " History and Government, books,		9.45	
" " " " " apparatus,		6.47	
" " Mathematics, subscription for "Transactions,"		100.00	
" " Mathematics, books, ...		15.00	
" " Physics, research, ...		26.52	
" " Political Economy, books and material, ...		162.89	
" " Political Economy, maps and charts, ...		256.77	
" " Sanskrit, publications, ...		6.07	
" " Zoölogy, aquarium (part), . . .		109.78	
" Lowell Memorial Library, books, ...		16.54	
" Music 7, ...		.20	
" Semitic Library, books, ...		157.95	
" The Ethics of the Social Questions.			
Sundry expenses, ...	$1,644.89		
Less charged to College salaries,	150.00	1,494.89	
" Social Questions Library, books, ...		101.29	
" Plantations in the College Yard, ...		304.91	
" Bermuda Biological Station, ...		365.73	
" Research in Experimental Phonetics, ...		2.54	
" Equipment for the course in Forestry, ...		68.18	14,412.54
Appropriations for collections, laboratories, &c.			
Anthropology (Prof. F. W. Putnam), ...		$100.00	
Botany (Prof. Thaxter), ...		100.00	
Chemistry (Prof. Sanger), ...		250.00	
Fine Arts and Drawing (Prof. Moore), ...		300.00	
Amounts carried forward, ...		$750.00	$204,715.08

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward,	$750.00	$204,715.08
Appropriations for collections, laboratories, &c. (*continued*).		
Geology and Geography (Asst. Prof. Ward),	125.00	
" for publications (Prof. Davis),	100.00	
" " reprints (Prof. Davis),	50.00	
Mineralogy (Prof. Wolff),	300.00	
Mining and Metallurgy, running expenses (Prof. H. L. Smyth),	125.00	
Music (Prof. Paine),	125.00	
Petrography (Prof. Wolff),	50.00	
Physics (Prof. Trowbridge),	500.00	
Psychology (Prof. Münsterberg),	150.00	
" for publications,	366.00	
Zoölogy (Prof. Mark),	200.00	
" for publications,	250.00	
Laboratory fees appropriated,	26,167.10	
Fuel and services in Nat. Hist. Laboratories,	1,500.00	
Fuel, services, &c., in Jefferson Ph. Laboratory,	600.00	31,358.10
Salaries.		
Instruction,	$436,619.35	
Deans,	4,500.00	
Chairmen of Committees,	1,600.00	
Medical Visitor,	3,000.00	
Recorders and Secretaries,	4,500.00	
Examination Proctors,	1,578.00	451,797.35
For College Public Buildings which are not valued in the Treasurer's books, the expenses of which are not separately entered in this table.		
Repairs, improvements, &c.,	$7,751.73	
Cleaning and care,	12,413.53	
Fuel,	9,666.71	
Water,	386.20	
Lighting,	2,040.65	
Insurance,	1,167.72	
Electric power,	645.01	
Supplies and sundries,	409.12	
Telephones,	84.28	34,564.95
For College Dormitories, which are not valued in the Treasurer's books.		
Repairs and improvements,	$7,542.78	
Cleaning and care,	14,251.80	
Fuel,	2,877.63	
Water,	1,037.57	
Lighting,	3,509.24	
Insurance,	618.64	
Supplies and sundries,	354.96	30,191.52
Amount carried forward,		$752,627.00

TABLE No. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward,			$752,627.00
General Expenses.			
Deans and Chairmen of Committees, clerical and office expenses,		$17,111.34	
Reading examination books,		3,628.17	
Services of proctors,		1,128.25	
" assistants to instructors,		6,657.13	
" undergraduates,		1,855.87	
" Head Guide in College grounds,		58.80	
Attendants in department laboratories,		2,140.00	
Attendants in department libraries,		1,254.40	
Admission examinations,		2,848.69	
Pews hired in Cambridge churches,		1,694.50	
Commencement Dinner,		779.35	
Printing office, expenses,	$21,968.31		
Less receipts,	13,380.50	8,587.81	
Books,		45.31	
Annals of Mathematics,		724.36	
Studies and Notes in Philology and Literature,		700.00	
Telephones,		21.55	
Furniture,		552.40	
Advertising,		1,385.81	
Watchmen,		1,641.30	
Legal services,		165.82	
Music, Class-Day,		125.00	
Receptions,		64.66	
Use of Grays 18 by English department,		100.00	
Services and expenses at Faculty meetings,		81.82	
" for Parietal Board,		7.00	
Blank books for examinations,		579.06	
Expenses of camp at Squam Lake (Engineering),		8,319.40	
Engineering courses in Pierce Hall,		9,349.31	
Travelling expenses in Mining 12,		315.40	
Travelling expenses in Economics 18,		57.70	
Expenses of Medical Visitor,		116.87	
" " delegates,		61.76	
Diplomas,		416.75	
Lighting College Yard,		182.50	
Rent and moving of pianos,		99.00	
Work on seals,		69.24	
Installation of Fire line, alarm boxes, etc.,		1,633.21	
Freight, and sundries,		50.49	74,610.03
			$827,237.03

TABLE No. III.

THE LIBRARY.

RECEIPTS.

Income of Book Funds, and Gifts and Receipts for the purchase of books.		
Nathaniel I. Bowditch,	$101.74	
Bright (½ income of the **Bright** Legacy),	1,192.50	
Edwin Conant (¼ income),	330.85	
Constantius (½ income),	618.98	
Denny,	253.38	
Eliza Farrar,	253.62	
Price Greenleaf (part),	2,000.00	
Horace A. Haven,	152.98	
Francis B. Hayes,	479.34	
George Hayward,	249.23	
Thomas Hollis,	113.14	
Sidney Homer,	103.51	
Jarvis,	23.85	
Frederick A. Lane,	252.72	
Lowell,	1,267.44	
Charles Minot,	2,884.80	
Lucy Osgood,	341.10	
Mary Osgood,	333.66	
Henry L. Pierce (part),	2,192.66	
Francis Sales,	188.51	
Stephen Salisbury,	253.43	
Sever,	958.25	
Samuel Shapleigh,	189.94	
George B. Sohier (part),	83.90	
Subscription for Library,	504.52	
Charles Sumner,	1,793.76	
Kenneth Matheson Taylor,	242.36	
Daniel Treadwell,	568.82	
Ichabod Tucker,	211.64	
Henry W. Wales (part),	175.50	
James Walker,	757.05	
Thomas W. Ward,	252.76	
Executors of **Robert Waterston** (balance),	12.35	
J. Huntington Wolcott,	959.06	
Gifts for books,	3,596.71	
Sale of duplicate books,	295.56	
Received for books lost,	58.22	
Fines,	393.03	$24,640.87
Income of **R. M. Hodges** Fund, for publishing Bibliographical Contributions,		366.48
Amount carried forward,		$25,007.35

Table No. III, The Library, continued.

RECEIPTS.

Amount brought forward,		$25,007.35
Income of Funds for general purposes.		
Daniel Austin,	$297.17	
Edwin Conant (¾ income),	992.54	
Constantius (½ income),	618.98	
Fund of the **Class of 1851,**	29.19	
" " " " (C. F. Dunbar's Gift),	28.76	
Price Greenleaf,	15,085.54	
Henry T. Morgan,	3,909.06	
Henry L. Pierce (part),	2,600.00	
James Savage (¾ net income),	1,277.55	
Eben Wright,	4,770.00	29,608.79
Fees for use of Library,	$110.00	
Sale of Index Subject Catalogues,	2.75	
" Bibliographical Contributions,	17.91	
Subscription to a periodical repaid,	1.67	
Gifts for services,	860.00	
Gifts for binding,	521.00	1,513.33
		$56,129.47

PAYMENTS.

For Books, from the following Funds, Gifts, etc.	
Bowditch,	$98.91
Bright,	1,213.88
Conant,	282.60
Constantius,	631.74
Denny,	251.47
Farrar,	223.79
Price Greenleaf,	1,716.14
Haven,	97.06
Hayes,	473.17
Hayward,	183.90
Hollis,	143.78
Homer,	91.96
Jarvis,	6.56
Lane,	280.10
Lowell,	1,346.61
Minot,	2,755.63
Lucy Osgood,	344.83
Mary Osgood,	315.35
Pierce,	2,200.28
Sales,	190.33
Salisbury,	247.71
Sever,	690.11
Amount carried forward,	$13,785.91

TABLE NO. III, THE LIBRARY, CONTINUED.

PAYMENTS.

Amount brought forward,	$13,785.91	
For Books, from the following Funds, etc. (*continued*).		
Shapleigh,	223.93	
Sohier,	107.98	
Subscription Fund,	588.02	
Sumner,	1,881.83	
Taylor,	181.40	
Daniel Treadwell,	265.83	
Tucker,	170.17	
Walker,	695.89	
Ward,	264.66	
J. Huntington Wolcott,	960.64	
Special Gifts,	3,958.51	
Duplicate money and receipts for lost books,	225.16	
Fines,	350.42	$23,660.35
From **R. M. Hodges** Fund.		
Publication of bibliographical contributions,		199.25
Salaries,	$15,250.00	
Services and wages,	19,129.83	
Services, from special gifts,	880.50	
Repairs and improvements,	532.08	
Janitors and cleaning,	867.12	
Fuel,	940.28	
Water,	13.58	
Lighting,	1,316.22	
Printing,	1,091.88	
Furniture,	212.41	
Stationery and postage,	712.28	
Telephone,	119.05	
Binding,	2,480.26	
Binding, from special gifts,	453.60	
Electric power,	96.17	
Freight,	172.88	
Supplies and sundries,	1,050.09	
Canvas awnings,	195.00	
Charges on von Maurer collection,	681.12	
Mounting maps,	66.30	
Moving books,	43.00	46,303.15
		$70,162.75

TABLE No. IV.

DIVINITY SCHOOL.

RECEIPTS.

Gifts for Capital Account.			
Robert Charles Billings Fund for Prizes, . .		$2,500.00	
Joseph P. Baker Fund (additional), ...		7,400.00	$9,900.00
Income of Funds for Instruction, or for general purposes.			
Divinity School (balance), ...		$1,084.18	
New Endowment, ...		3,407.07	
Oliver Ames, ...		810.90	
Hannah C. Andrews, ...		25.04	
Daniel Austin, ...		42.45	
Adams Ayer, ...		47.70	
Joseph Baker, ...		375.64	
Beneficiary money returned (balance), ...		8.30	
Bussey Professorship, ...		1,792.76	
Benjamin Bussey Trust (½ net income), . . .		2,995.46	
Joshua Clapp, ...		108.89	
Edwin Conant, ...		238.50	
Dexter Lectureship, ...		1,218.45	
Frothingham Professorship, ...		2,422.25	
Abraham W. Fuller, ...		50.09	
Lewis Gould, ...		43.45	
John Hancock Professorship, ...	$286.58		
C. L. Hancock (part), ...	4,713.42	5,000.00	
Haven, ...		238.50	
Samuel Hoar, ...		50.09	
Henry P. Kidder, ...		477.00	
Henry Lienow, ...		438.12	
Caroline Merriam, ...		50.09	
Parkman Professorship, ...		763.96	
John W. Quinby, ...		24.14	
Abby Crocker Richmond, ...		47.70	
John L. Russell, ...		47.70	
William B. Spooner, ...		477.00	
Thomas Tileston of New York Endowment, .		1,908.00	
Mary P. Townsend, ...		250.43	
Winthrop Ward, ...		100.17	
Winn Professorship, ...		2,616.15	27,155.18
Income of Scholarship, Beneficiary and Prize Funds.			
Robert Charles Billings, for prizes, ...		$9.92	
Abner W. Buttrick, ...		631.12	
Thomas Cary, ...		270.41	
George Chapman, ...		130.17	
Joshua Clapp, ...		212.60	
Amounts carried forward, ...		$1,254.22	$37,055.18

Table No. IV, Divinity School, continued.

RECEIPTS.

Amounts brought forward, . . .		$1,254.22	$37,055.13
Income of Scholarship, etc. (*continued*).			
Jackson Foundation, ...		713.50	
J. Henry Kendall, ...		257.58	
Nancy Kendall, ...		164.66	
William Pomroy, ...		50.09	2,440.05
Income of Book Funds.			
Rushton Dashwood Burr, ...		$193.19	
Louisa J. Hall, ...		36.01	229.20
Receipts from Students.			
Tuition fees, regular courses, ...		$6,265.00	
" " Graduate School, ...		624.50	
" " Special Students in Harvard College, .		646.00	
" " Summer School, ...		705.00	
Divinity Hall, ...		2,740.00	
Library fines, ...		7.95	10,988.45
Gift from Society for Promoting Theological Education,		$1,331.47	
Gifts for an **Emerson** tablet, ...		226.00	
" " a **Frederic Henry Hedge** tablet, ...		200.00	
" " " **Joseph Henry Thayer** tablet, ...		360.00	
" " repairs in the Chapel, ...		50.00	
Sale of tickets to Alumni Dinner, ...		42.00	
" Catalogues, ...		.50	2,209.97
			$52,922.80

PAYMENTS.

From Scholarship Funds.			
Thomas Cary, ...		$280.00	
George Chapman, ...		100.00	
Joshua Clapp, ...		180.00	
Jackson, ...		693.34	
J. H. Kendall, ...		200.00	
Nancy Kendall, ...		140.00	$1,593.34
From Beneficiary Funds.			
Abner W. Buttrick, ...		$633.33	
William Pomroy, ...		49.14	682.47
From **Louisa J. Hall** Fund, books, ...			2.34
Salaries for instruction, ...		$31,453.49	
Summer School. Salaries for instruction, .	$1,125.00		
Printing and other expenses,	337.10	1,462.10	
Secretary and Librarian, ...		1,093.75	
Services and wages, ...		779.59	
Library Assistants, ...		638.38	
Proctors, ...		40.00	
Amounts carried forward, ...		$35,467.31	$2,278.15

TABLE NO. IV, DIVINITY SCHOOL, CONTINUED.

PAYMENTS.

Amounts brought forward,	$35,467.31	$2,278.15
Repairs, improvements, and labor,	4,836.37	
Cleaning and care of rooms,	1,720.96	
Fuel,	808.32	
Water,	98.50	
Lighting,	345.89	
Printing,	302.28	
Furniture,	57.11	
Stationery and postage,	111.58	
Telephone,	23.75	
Books,	694.84	
Binding,	10.25	
Advertising,	419.54	
Insurance,	798.83	
Diplomas,	158.75	
Alumni dinner,	50.00	
Proportion of expenses of Gymnasium,	86.36	
Tuning and repairing organ,	66.18	
American School for Oriental study and research in Palestine (4th payment),	100.00	
Subscriptions to the Fellowship in Christian Archaeology in the American School of Classical Studies in Rome,	50.00	
Emerson tablet,	226.00	
Sundries,	47.24	46,480.06
		$48,758.21

TABLE NO. V.

LAW SCHOOL.

RECEIPTS.

Income of Funds.	
Law School, balance,	$11,299.32
James Barr Ames Prize,	171.26
Bemis Professorship,	3,239.88
Benjamin Bussey Professorship,	1,143.85
Benjamin Bussey Trust (½ net income),	2,995.47
Nathan Dane Professorship,	751.28
Hughes Loan,	23.95
Law School Book,	2,242.90
Law School Library,	4,770.00
Isaac Royall Professorship,	397.86
Weld "	4,531.26
Amount carried forward,	$31,567.03

Table No. V, Law School, continued.

RECEIPTS.

Amount brought forward,		$31,567.03	
Income of Funds (*continued*).			
Scholarship money returned, scholarship and loan repaid with interest,	$511.00		
Interest,	66.30	577.30	$32,144.33
Gift for the purchase of books,		$300.00	
Gift for assisting a student,		75.00	375.00
Tuition fees,			108,450.00
Sale of Catalogue,			3.00
" books,			57.90
			$141,030.23

PAYMENTS.

Salaries for instruction,	$52,233.33	
Librarians and Assistants,	10,743.14	
Secretary,	590.64	
Services of proctors,	368.62	
Scholarships,	5,100.00	
Repairs and improvements,	342.37	
Janitor, cleaning, &c.,	1,455.30	
Fuel,	774.62	
Water,	61.24	
Lighting,	1,439.72	
Printing,	285.58	
Furniture,	898.71	
Stationery and postage,	579.81	
Telephone,	89.60	
Books,	11,947.61	
Binding,	2,210.68	
Advertising,	110.00	
Insurance,	324.40	
Freight,	323.95	
Proportion of expenses of Gymnasium,	1,225.70	
Travelling expenses,	57.41	
Electric power,	50.00	
Catalogue,	231.34	
Diplomas,	220.00	
Expenses connected with proposed addition to Austin Hall,	10.00	
Association of American Law Schools,	10.00	
Work on portrait,	75.00	
Sundries,	510.46	$92,268.63

Table No. VI.

MEDICAL SCHOOL.

RECEIPTS.

Gifts for Capital Account.		
F. B. Greenough Fund for Surgical Research (additional),	$300.00	
Joseph Pearson Oliver Scholarship Fund,	8,500.00	$8,800.00
Income of Funds for Instruction, or for general purposes.		
Medical School, balance,	$2,202.50	
Edward M. Barringer (part),	716.97	
John B. and **Buckminster Brown**,	994.78	
Caroline Brewer Croft (part),	1,500.00	
Calvin and **Lucy Ellis** (part),	17,151.17	
George Fabyan (part),	5,893.57	
Samuel E. Fitz,	87.58	
Henry Harris (½ income),	714.04	
Hersey Professorship (⅖ income),	385.74	
George Higginson,	4,844.60	
Jackson,	2,108.01	
William O. Moseley,	2,523.33	
New subscription,	1,848.38	
Dr. Ruppaner,	445.33	
George C. Shattuck,	3,486.06	
Mary W. Swett,	751.99	
Samuel W. Swett,	954.00	
Quincy Tufts,	95.40	
Henry Willard Williams,	1,622.18	48,825.63
Income of Fellowship Funds.		
Edward Austin (part) Teaching,	$2,000.00	
George Cheyne Shattuck Memorial,	254.96	
Charles Eliot Ware "	269.98	
John Ware "	252.91	2,777.85
Income of Scholarship Funds.		
Edward M. Barringer (part),	$500.00	
Lucius F. Billings,	243.60	
David Williams Cheever,	274.56	
Cotting Gift,	149.54	
Orlando W. Doe,	132.99	
Joseph Eveleth (part),	680.00	
John Foster, income for Medical Students every other year,	151.26	
Lewis and **Harriet Hayden**,	273.47	
William Hilton (part),	360.00	
Amounts carried forward,	$2,765.42	$59,903.48

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

RECEIPTS.

Amounts brought forward, ...		$2,765.42	$59,903.48
Income of Scholarship Funds (*continued*).			
C. M. Jones, ...		308.43	
Alfred Hosmer Linder, ...		254.34	
Joseph Pearson Oliver, ...		84.48	
Charles B. Porter, ...		269.12	
Charles Pratt Strong, ...		222.81	
Isaac Sweetser, ...		304.99	
John Thomson Taylor, ...		250.43	
Edward Wigglesworth, ...		255.43	4,715.45
Income of Prize Funds.			
Ward Nicholas Boylston, ...		$175.77	
William H. Thorndike, ...		324.93	500.70
Income of Sundry Funds and Gifts for special purposes.			
Edward Austin (Bacteriological Laboratory), .		$537.20	
J. Ingersoll Bowditch, ...		296.31	
Ward Nicholas Boylston, for Medical Books,		122.26	
Caroline Brewer Croft (part), ...		694.79	
George Fabyan (part), ...		168.00	
F. B. Greenough (surgical research), ...		122.83	
Surgical Laboratory, ...		271.03	
Warren Fund for Anatomical Museum, ...		688.88	
Medical Library, ...		83.95	
Gifts for present use, ...		80.79	3,066.04
Gifts for present use, ...			16,195.00
Receipts from students.			
Tuition fees, regular courses, ...	$60,447.00		
" " graduate courses, ...	1,446.00		
" " Dental students, ...	5,400.00		
" " Summer courses, ...	4,772.50	$72,065.50	
Graduation fees, ...		3,900.00	
Matriculation fees, ...		360.00	
Examination fees, ...		522.00	
Laboratory fees.			
Chemistry, ...	$802.02		
Embryology, ...	513.00		
Operative Surgery, ...	228.00		
Physiology, ...	377.86		
Practical Anatomy, ...	898.00		
Surgery, ...	136.00	2,954.88	
Use of microscopes, ...		783.00	80,585.38
			$164,966.05

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

PAYMENTS.

From Fellowship Funds.			
Edward Austin, Teaching,		$2,000.00	
George Cheyne Shattuck Memorial,		225.00	
Charles Eliot Ware Memorial,		225.00	
John Ware Memorial,		225.00	$2,675.00
From Scholarship Funds.			
Edward M. Barringer,		$500.00	
Lucius F. Billings,		200.00	
David Williams Cheever,		250.00	
Cotting Gift,		125.00	
Orlando W. Doe,		100.00	
Joseph Eveleth,		680.00	
John Foster, income for Medical Students (bal.),		61.04	
Lewis and **Harriet Hayden,**		223.82	
William Hilton,		360.00	
C. M. Jones,		350.00	
Alfred Hosmer Linder,		200.00	
Charles B. Porter,		200.00	
Charles Pratt Strong,		140.00	
Isaac Sweetser,		150.00	
John Thomson Taylor,		200.00	
Edward Wigglesworth,		200.00	
Faculty Scholarships,		880.00	4,819.86
From Prize Funds.			
Ward Nicholas Boylston, Prize,		$75.00	
Advertising,		12.49	87.49
From Sundry Funds and Gifts for special purposes.			
Edward Austin (Bacteriological Laboratory),		$705.68	
J. Ingersoll Bowditch, Physiology,		397.18	
Ward Nicholas Boylston, Medical Books,		523.55	
Caroline Brewer Croft (part), cancer investigations,		623.00	
George Fabyan (part), services,		168.00	
Gifts for Anatomical Research,		496.63	
Gifts for Pathological Department Library,	$1,815.38		
Less paid for salaries,	700.00	1,115.38	
Surgical Laboratory,		1,281.59	
Warren Fund for Anatomical Museum,		1,097.60	
Sundry Gifts,	$7,644.48		
Less paid for salaries,	750.00	6,894.48	13,303.09
Appropriations.			
Anatomy,		$1,000.00	
Bacteriology,		500.00	
Chemistry,		761.18	
Amounts carried forward,		$2,261.18	$20,885.44

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

PAYMENTS.

Amounts brought forward,	$2,261.18	$20,885.44
Appropriations (*continued*).		
Clinical Medicine,	50.00	
Gynaecology,	25.00	
Histology and Embryology,	1,013.00	
Hygiene,	300.00	
Museum,	200.00	
Obstetrics,	200.00	
Pathology,	700.00	
Pharmacology and Therapeutics,	400.00	
Physiology,	3,931.20	
Surgery,	736.00	
Theory and Practice,	100.00	9,916.38
Graduate courses, fees repaid to Instructors,	$1,446.00	
Summer " " " "	5,280.00	6,726.00
Salaries for instruction,		100,075.00
General Expenses.		
Dean, and Secretary,	$500.00	
Clerical services,	1,780.00	
Repairs and improvements,	545.52	
Janitor and cleaning,	5,300.96	
Fuel,	2,235.87	
Water,	991.20	
Lighting and gas,	3,155.07	
Printing,	346.65	
Furniture,	78.34	
Instruments and apparatus,	31.00	
Stationery and postage,	234.03	
Telephone,	205.31	
Advertising and catalogues,	1,300.00	
Insurance,	59.00	
Proctors,	124.00	
Mechanics and laboratory attendants,	6,911.75	
Electric power,	1,128.62	
Diplomas,	57.00	
Time service,	25.00	
St. Louis Exposition,	1,500.00	
Legal expenses,	69.76	
Sundries,	444.13	
Supplies and material,	1,513.48	28,536.69
		$166,139.51

TABLE NO. VI, CONTINUED.

Medical School Undertaking.

RECEIPTS.

Gifts received in 1903–04.			
Robert Bacon Fund (additional),		$60,000.00	
Mrs. Collis P. Huntington, for building,		102,087.00	
J. Pierpont Morgan, for buildings,		400,000.00	
John D. Rockefeller (additional),		163,791.13	
David Sears, for building,		80,000.00	
Unrestricted Gifts,		26,000.00	$831,878.13
Income of Funds and Gifts.			
Robert Bacon,		$3,230.72	
Robert C. Billings,		5,003.64	
George Fabyan (addition of 1903),	$1,210.39*		
George Higginson Professorship,	4,844.60*		
Jackson Professorship (addition of 1902),	1,192.50*		
J. Pierpont Morgan Gift,		817.79	
Henry L. Pierce,		17,686.06	
Proctor, for the Study of Chronic Diseases,		2,445.44	
John D. Rockefeller Gift,		43,699.69	
School of Comparative Medicine,		221.28	
David Sears Building Gift,		2,229.31	
Shattuck Professorship (addition of 1902),	$1,240.20*		
James Stillman Professorship,		4,983.93	
Gift for Pathological Laboratory,		248.09	
Real estate,		138.71	80,704.66
			$912,582.79

PAYMENTS.

From **Robert C. Billings** Fund, for Journal of Medical Research,		$600.00
Gift for Pathological Laboratory,		97.91
Proctor Fund for the study of Chronic Diseases,		136.34
Real Estate.		
Sewer assessment,	$428.57	
Legal services,	95.00	
Other expenses, surveys and plans,	1,251.95	1,775.52
Construction Expenses,		485,343.39
Interest on Advances,		18,958.03
		$506,911.19

* These items of income are entered in the Medical School table.

TABLE NO. VII.

DENTAL SCHOOL.

RECEIPTS.

Gift for Capital Account.			
Dental School Endowment (additional),			$10.00
Income of Funds and Gifts.			
Dental School, balance,		$1,426.23	
Dental School Endowment,		107.66	
Henry C. Warren Endowment,		1,097.10	
Gifts for new building. Gift,	$10.00		
Interest,	992.40	1,002.40	3,633.39
Receipts from students.			
Tuition fees,	$18,460.00		
Less transferred to Medical School,	5,400.00	$13,060.00	
Examination fees,		405.00	
Laboratory fees,		2,288.91	
Use of microscopes,		99.00	
Chemistry, breakage, and supplies,		193.70	
Library fines,		.36	16,046.97
Fees from infirmary,			4,403.00
Sale of sweepings,		$24.01	
" gold and platinum,		187.21	
" scraps and old materials,		5.73	216.95
Unexpended balance of appropriations, returned,		$1.29	
United States duty, returned,		21.15	22.44
Gifts from officers of instruction in the Dental School,			2,883.50
" for immediate use,			54.00
			$27,270.25

PAYMENTS.

Salaries for instruction,	$12,420.00
Curator and Librarian,	150.00
Secretary,	300.00
Proctors,	100.00
Repairs and improvements,	2,194.34
Janitors and cleaning,	1,554.37
Fuel,	412.25
Water,	69.30
Lighting,	598.90
Printing,	206.17
Furniture,	132.47
Instruments and apparatus,	169.47
Stationery and postage,	245.00
Telephone,	147.90
Binding,	89.95
Advertising,	732.07
Amount carried forward,	$19,522.19

TABLE NO. VII DENTAL SCHOOL, CONTINUED.

PAYMENTS.

Amount brought forward,	$19,522.19	
Insurance,	360.00	
Services and wages,	1,271.43	
Delegates' expenses,	128.72	
Legal expenses,	31.45	
Diplomas,	14.25	
Catalogue,	82.40	
National Association of Dental Faculties, dues,	35.00	
International Dental Congress, contribution,	50:00	
Supplies, &c.,	3,772.76	
Sundries,	424.37	$25,692.57

TABLE NO. VIII.

MUSEUM OF COMPARATIVE ZOÖLOGY.

RECEIPTS.

Income of Funds.		
Museum of Comparative Zoölogy (balance),	$1,384.92	
Agassiz Memorial,	14,211.40	
Teachers and Pupils,	362.23	
Virginia Barret Gibbs Scholarship,	263.26	
Gray Fund for Zoölogical Museum,	2,385.00	
Sturgis Hooper,	5,141.73	
Humboldt,	369.25	
Willard Peele Hunnewell,	238.50	
Permanent Fund for Museum of Zoölogy,	5,603.27	
Henry L. Pierce,	4,770.00	$34,729.56
Use of lecture rooms by Radcliffe College,	$700.00	
Gifts for the purchase of books,	550.00	
Received for a lost book,	4.00	1,254.00
		$35,983.56

PAYMENTS.

Paid on the order of the Faculty of the Museum of Comparative Zoölogy, from the following Funds, &c.	
Balance of August 1, 1903 (part),	$879.67
Income of balance,	1,384.92
Agassiz Memorial,	14,211.40
Teachers and Pupils,	362.23
Gray,	2,385.00
Humboldt,	369.25
Willard Peele Hunnewell,	238.50
Permanent,	5,603.27
Amount carried forward,	$25,434.24

TABLE NO. VIII, MUSEUM OF COMPARATIVE ZOÖLOGY, CONTINUED.

PAYMENTS.

Amount brought forward,		$25,434.24	
Paid on the order of the Faculty of the Museum of Comparative Zoölogy, etc. (*continued*).			
Henry L. Pierce,		4,770.00	
Receipt for use of rooms,		700.00	
Receipt for a lost book,		4.00	
Gifts for the purchase of books,		550.00	$31,458.24
Virginia Barret Gibbs Scholarship,		$250.00	
Sturgis Hooper. Salary,	$5,000.00		
Expenses,	64.25	5,064.25	5,314.25
			$36,772.49

TABLE NO. IX.

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

RECEIPTS.

Income of Funds.		
Hemenway Fellowship,	$552.37	
Peabody Building,	1,425.73	
Peabody Collection,	2,379.97	
Peabody Professor,	2,379.97	
Thaw Fellowship,	1,158.12	
Henry C. Warren Exploration,	493.55	
Susan Cornelia Warren,	238.50	
Robert C. Winthrop Scholarship,	258.20	
Huntington Frothingham Wolcott,	983.67	$9,870.08
Use of heating plant,		75.00
Gifts for present use,		725.00
		$10,670.08

PAYMENTS.

Huntington Frothingham Wolcott Fund, specimens,		$930.00
Thaw Fellowship,		1,148.90
Henry C. Warren Fund, explorations,		465.00
Salary of Professor and Curator,	$2,354.67	
Services and wages,	2,635.40	
Repairs and improvements,	56.83	
Janitor and cleaning,	1,031.07	
Fuel,	245.89	
Water,	25.00	
Lighting,	18.35	
Printing,	50.90	
Amounts carried forward,	$6,418.11	$2,543.90

TABLE NO. IX, PEABODY MUSEUM, CONTINUED.

PAYMENTS.

Amounts brought forward,	$6,418.11	$2,543.90
Furniture,	88.79	
Stationery and postage,	156.87	
Telephone,	32.80	
Books,	27.36	
Binding,	5.95	
Insurance on collections,	121.50	
Freight,	198.80	
Supplies,	180.92	
Sundries,	25.05	
Interest on advances,	156.18	
	$7,412.33	
Less amount paid from University income,	1,295.31	6,117.02
		$8,660.92

TABLE NO. X.

OBSERVATORY.

RECEIPTS.

Gift for Capital Account.			
Advancement of Astronomical Science (1902),			$1,500.00
Income of Funds and Gift.			
Advancement of Astronomical Science (1902).			
Interest (part),	$586.90		
Sales,	361.42	$948.32	
Anonymous Gift (1902),		331.51	
Thomas G. Appleton,		238.50	
J. Ingersoll Bowditch,		119.25	
Uriah A. Boyden,		9,509.42	
Charlotte Harris,		95.40	
Haven,		2,146.50	
James Hayward,		1,001.70	
Observatory Endowment,		2,385.00	
Paine Professorship,		2,385.00	
Robert Treat Paine,		13,066.56	
Edward B. Phillips,		5,261.02	
Josiah Quincy,		612.94	
James Savage (½ net income),		425.85	
David Sears,		1,782.84	
Augustus Story,		638.23	40,948.04
Mrs. Henry Draper, gift for special research (additional),		$10,000.00	
Interest,		11.83	10,011.83
Amount carried forward,			$52,459.87

TABLE NO. X, OBSERVATORY, CONTINUED.

RECEIPTS.

Amount brought forward, ...		$52,459.87
Use of house by College officer, ...	$600.00	
Sale of Annals, ...	29.86	
" lantern slides, ...	1.00	
" grass, ...	35.00	
" time signals, ...	36.83	702.69
Carnegie Institution, for services of Observatory officers, ...		300.00
		$53,462.56

PAYMENTS.

From Anonymous Gift (1902), addition to brick building, &c., . . .		$2,881.30
" Advancement of Astronomical Science Fund (1902),	$1,945.38	
Less amount included in general expenses, .	1,000.00	945.38
" **Uriah A. Boyden** Fund, supplies, apparatus, services, &c.,		8,951.83
" **Draper** Memorial, supplies, apparatus, services, &c.,	$9,989.16	
Less amount included in salaries, ...	2,500.00	7,489.16
" Gifts for publishing Lunar Photographs, ...		90.61
Salaries, ...	$16,500.00	
Services and wages, ...	6,918.16	
Repairs and improvements, ...	1,835.00	
Cleaning and care of Observatory, ...	658.93	
Labor, ...	1,482.00	
Fuel, ...	648.74	
Water, ...	66.51	
Lighting, ...	250.29	
Printing, ...	2,649.59	
Furniture, ...	212.92	
Instruments and apparatus, ...	406.30	
Stationery, postage, and telegraphing, ...	515.63	
Telephone, ...	127.22	
Books, ...	383.85	
Binding, ...	360.95	
Insurance, ...	597.00	
Supplies and materials, ...	897.09	
Freight, ...	382.57	
Sundries, ...	24.79	
Use of house, ...	90.00	
Electric power, ...	72.12	
Interest on advances, ...	168.14	35,247.80
		$55,606.08

Table No. XI.

BUSSEY INSTITUTION.

RECEIPTS.

Income of Funds.		
Bussey Institution (balance),	$1,324.10	
Bussey Trust (½ net income),	5,990.93	$7,315.03
Tuition fees,		2,550.00
Sale of wood, hay, and sundries,	$89.99	
" horses,	235.00	
Horticultural Departm't, prizes, sale of flowers, plants, &c.,	1,999.04	
Board of animals,	4,905.26	
Use of house by College officer,	600.00	7,829.29
		$17,694.32

PAYMENTS.

Salaries,	$8,000.00	
Services and wages,	3,010.73	
Repairs and improvements,	567.29	
Fuel,	523.00	
Gas,	39.90	
Water,	36.80	
Printing,	69.66	
Furniture,	23.95	
Stationery and postage,	6.51	
Books,	54.28	
Binding,	65.05	
Insurance,	209.50	
Horticultural Department, expenses,	2,274.01	
Grain, farming tools, &c.,	1,799.34	
Diplomas,	10.00	
Sundries,	197.60	$16,887.62

Table No. XII.

ARNOLD ARBORETUM.

RECEIPTS.

Gifts for capital account.			
Arnold Arboretum Fund (additional),		$1,065.00	
Robert Charles Billings Fund,		12,500.00	$13,565.00
Income of Funds and Gifts.			
Arnold Arboretum,		$5,889.14	
James Arnold,		7,617.78	
Robert Charles Billings,		486.50	
William L. Bradley. Interest,	$1,082.98		
Gift,	600.00	1,682.98	
Bussey, for the **Arnold** Arboretum,		110.09	
Gifts for construction,		308.32	16,094.81
Sale of grass and materials,		$713.75	
Gifts for present use,		2,100.22	
" construction,		5,000.00	7,813.97
			$37,473.78

TABLE NO. XII, ARNOLD ARBORETUM, CONTINUED.

PAYMENTS.

William L. Bradley Fund, bibliography,	$596.45	
Salaries of Director and Assistant,	3,500.00	
Repairs and improvements,	129.32	
Labor,	4,561.74	
Fuel,	402.13	
Water,	49.00	
Printing,	35.66	
Furniture,	338.81	
Stationery and postage,	310.52	
Instruments and apparatus,	118.89	
Services and wages,	6,173.67	
Supplies, tools, and materials,	638.43	
Freight,	204.20	
Rent of land leased from Adams Nervine Asylum,	150.00	
Expenses of expeditions for collecting,	263.08	
St. Louis Exposition expenses,	250.49	
Sundries,	17.93	$17,740.32

TABLE NO. XIII.

MISCELLANEOUS FUNDS.

Sundry Funds for Special Purposes.

Receipts.

Gifts for Capital Account.		
Fund of the **Class of 1856**,	$7,500.00	
George Smith Bequest,	257,550.66	$265,050.66
Income of Funds, Gifts, &c.		
Advancement of Astronomical Science (1901),		2,385.00
" " " " (1902) (part),		586.91
Edward Austin. Interest,	$22,922.52	
Loan to Special Students repaid,	87.50	
	$23,010.02	
Less appropriations as per Tables II and VI,	19,376.36	3,633.66
Bussey Trust, net income from Real Estate,		15,981.86
Class of 1834,		54.79
" **1844**,		315.67
" **1853**,		149.00
" **1856**,		178.87
Caroline Brewer Croft (part),		2,194.80
Eaton Professorship of the Science of Government (part),		190.05
Calvin and **Lucy Ellis** (part),		114.96
Calvin and **Lucy Ellis** Aid (part),		346.69
Amount carried forward,		$291,182.92

TABLE NO. XIII, MISCELLANEOUS FUNDS, CONTINUED.

Sundry Funds for Special Purposes (*continued*).

Receipts.

Amount brought forward,		$291,182.92
Income of Funds, Gifts, &c. (*continued*).		
Gospel Church (½ income),		154.35
Gurney (part),		1,000.00
Charles L. Hancock (part),		43.71
Harvard Memorial Society,		60.20
Henry S. Nourse (part),		599.48
Robert Troup Paine (accumulating),		1,501.45
Professorship of Hygiene (part),		3,919.76
John W. and Belinda L. Randall,		264.97
Nelson Robinson Jr.,	$24,327.00	
Less amount entered in Table II,	18,950.50	5,376.50
George Smith Bequest,		86.91
Thayer Scholarship (part),		10.00
Alexander W. Thayer (part),		480.00
Charles Wilder,		1,908.00
Daniel Williams,		793.87
Sarah Winslow,		233.83
Woodland Hill,		749.32
		$308,365.27

Payments.

From the following Funds and Gifts.		
Advancement of Astronomical Science (1901), annuity,		$2,357.83
" " " " (1902) "		453.25
Bussey Trust. Annuities,	$4,000.00	
One half of the remaining income to the **Bussey** Institution,	5,990.93	
One quarter to the Divinity School,	2,995.46	
One quarter to the Law School,	2,995.47	15,981.86
Class of 1853, Secretary of the Class,		149.00
Caroline Brewer Croft, annuity,		2,153.38
Calvin and **Lucy Ellis,** taxes and expenses,		114.96
Calvin and **Lucy Ellis** Aid, plan,		.75
Eaton Professorship of the Science of Government, legal expenses,		190.05
Gifts for Cuban Teachers, expenses,		100.00
Gurney, annuities,		1,000.00
Charles L. Hancock, taxes on Chelsea real estate,		43.71
Henry S. Nourse.		
Legal and other expenses,	$349.48	
Annuity,	250.00	599.48
Professorship of Hygiene, annuity,		4,519.22
George Smith Bequest, express,		29.70
Thayer Scholarship, legal expenses,		10.00
Amount carried forward,		$27,703.19

TABLE NO. XIII, MISCELLANEOUS FUNDS, CONTINUED.

Sundry Funds for Special Purposes (*continued*).

Payments.

Amount brought forward, ...		$27,703.19
From the following Funds and Gifts (*continued*).		
Alexander Wheelock Thayer, annuity, ...		480.00
Charles Wilder, annuity, ...		1,872.00
Daniel Williams.		
Treasurer of Mashpee Indians, ...	$519.30	
" " Herring Pond Indians, ...	261.92	781.22
Sarah Winslow,		
Teacher at Tyngsborough, Mass., ...	$109.40	
Minister " " "	221.48	
Commission on income, credited to University, .	5.85	336.73
Woodland Hill.		
Taxes, ...	$1,003.52	
Cost of wall on Walter Street (part), ...	388.50	
" land on Weld Street, ...	431.83	1,823.85
		$32,996.99

Construction Accounts.

Receipts.

Emerson Hall.		
Gifts, ...	$32,254.53	
Repayment by Treasurer of Committee of the unexpended part of the amount held by him for expenses, ...	999.90	
Interest, ...	5,637.58	$38,892.01
New Library Building. Gift, ...	$10,000.00	
Interest, ...	436.10	10,436.10
Semitic Building, interest, ...		47.82
John Simpkins Hall, interest, ...		24.23
Stillman Infirmary. Gift, ...	$25,000.00	
Interest (part), ...	2,009.58	27,009.58
University Museum, interest, ...		129.26
Gifts for Improvements and Additions to The Soldier's Field, . . .		20,000.00
Stadium, Gift, ...		100,000.00
		$196,539.00

Payments.

Emerson Hall.		
Architects, services, ...	$3,220.25	
Express, ...	.15	$3,220.40
Semitic Building and furniture, ...		397.54
John Simpkins Hall, equipment, ...		1,250.00
Stadium. Construction, ...	$225,407.17	
Interest, ...	745.12	226,152.29
Stillman Infirmary. Construction, ...	$272.00	
Contagious Ward, ...	7,815.35	8,087.35
University Museum, ...		1,891.82
		$240,999.40

TABLE NO. XIII, MISCELLANEOUS FUNDS, CONTINUED.

Sundry Accounts.

Receipts.

Bursar's Sundry Accounts,		$494,599.06
Advances from General Investments to		
Advancement of Astronomical Science (1902),	$277.17	
Botanic Department,	363.11	
Classical Publication Fund of the **Class of 1856**,	561.40	
Gift for Aquarium,	.40	
Hollis Book Fund,	6.21	
James Loeb's Gift (labor collection),	50.00	
Medical School Undertaking,	10,338.53	
Observatory,	2,090.68	
Shapleigh Book Fund,	2.30	
Stadium,	57,932.73	
Subscription Book Fund,	7.80	71,630.33
Gains and Losses for General Investments.		
Gain on purchase and sale of $25,000 Long Island R.R. Ref. M. 4's of 1949,	$596.53	
Gain on sale of $10,000 Philadelphia, Baltimore & Washington R.R. 1st M. 4's of 1943,	596.52	1,193.05
Gain from change of Special Investment.		
John Cowdin Fund.		
Gain on sale of **Cowdin** Estate,		11,835.06
Transfers to		
Books on Economics, from Political Economy Department Library Gifts,	$50.00	
Robert Bacon Fund, from Medical School Undertaking,	26,063.01	
Bussey Fund for the **Arnold** Arboretum, from Woodland Hill Fund,	4,898.06	
Woodland Hill Fund, from **Bussey** Fund for the **Arnold** Arboretum,	2,590.00	33,601.07
		$612,858.57

Payments.

Bursar's Sundry Accounts,		$504,039.75
Advances from General Investments, repaid by		
Uriah A. Boyden Fund,	$557.59	
Hayward Book Fund,	18.79	
Peabody Museum of American Archaeology and Ethnology,	1,081.85	
Nelson Robinson Jr. Equipment,	278.52	
Scholarship and Beneficiary Money Returned,	139.30	
South End House Fellowship (part),	10.00	2,086.05
Amount carried forward,		$506,125.80

TABLE NO. XIII, MISCELLANEOUS FUNDS, CONTINUED.

Sundry Accounts (*continued*).

Payments.

Amount brought forward, ...		$506,125.80
Transfers from		
Bussey Fund for the **Arnold** Arboretum, to Woodland Hill Fund, ...	$2,590.00	
Medical School Undertaking, to **Robert Bacon** Fund, ...	26,063.01	
Woodland Hill Fund, to **Bussey** Fund for the **Arnold** Arboretum, .	4,898.06	
Political Economy Library Gifts, to Books on Economics, ...	50.00	33,601.07
Sundry balances, ...		2,406.73
		$542,133.60

GENERAL SUMMARY OF THE TABLES.

Table.		Receipts.	Payments.
I.	University, ...	$144,647.71	$134,527.03
II.	College, ...	943,129.30	827,237.06
III.	Library, ...	56,129.47	70,162.75
IV.	Divinity School, ...	52,922.80	48,758.21
V.	Law School, ...	141,030.23	92,268.63
VI.	Medical School, ...	164,966.05	166,139.51
	" " Undertaking, ...	912,582.79	506,911.19
VII.	Dental School, ...	27,270.25	25,692.57
VIII.	Museum of Comparative Zoölogy, ...	35,983.56	36,772.49
IX.	**Peabody** Museum of American Archaeology and Ethnology, ...	10,670.08	8,660.92
X.	Observatory, ...	53,462.56	55,606.05
XI.	**Bussey** Institution, ...	17,694.32	16,887.62
XII.	**Arnold** Arboretum, ...	37,473.78	17,740.32
XIII.	Sundry Funds for Special Purposes, . . .	308,365.27	32,996.99
	Construction Accounts, ...	196,539.00	240,999.40
	Sundry Accounts, ...	612,858.57	542,133.60
		$3,715,725.74	$2,823,494.34
		2,823,494.34	
	Net increase of the Funds and balances, .	$892,231.40	
	Deduct gifts for capital account, ...	633,988.55	
	Balance, which is the net increase of Funds and balances, excluding gifts for capital account, as is also shown on page 58, ...	$258,242.85	

Certificate of the Committees of the Corporation and Overseers of Harvard College, for examining the Accounts of the Treasurer.

The committees appointed by the Corporation and Overseers of Harvard College to examine the accounts of the Treasurer for the year ending July 31, 1904, have, with the assistance of an expert chosen by them, examined and audited the Cash-book and Journal covering the period from August 1, 1903, to July 31, 1904, inclusive, and have seen that all the bonds, notes, mortgages, certificates of stock, and other evidences of property, which were on hand at the beginning of said year, or have been received by him during said year, are now in his possession, or are fully accounted for by entries made therein; they have also noticed all payments, both of principal and interest, indorsed on any of said bonds or notes, and have seen that the amounts so indorsed have been duly credited to the College.

They have in like manner satisfied themselves that all the entries for moneys expended by the Treasurer, or charged in his books to the College, are well vouched; such of them as are not supported by counter entries being proved by regular vouchers and receipts.

They have also seen that all the entries for said year are duly transferred to the Ledger, and that the accounts there are rightly cast, and the balances carried forward correctly to new accounts.

(Signed,)

HENRY P. WALCOTT,
ARTHUR T. CABOT,
} *Committee on the part of the Corporation.*

MOSES WILLIAMS,
WILLIAM C. ENDICOTT,
ROBERT WINSOR,
GORDON ABBOTT,
G. ST. L. ABBOTT,
ADELBERT E. BUFFUM,
} *Committee on the part of the Board of Overseers.*

BOSTON, January 4, 1905.

THE UNIVERSITY PUBLICATION

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- The Annual Reports of the President and of the Treasurer.
- The Annual University Catalogue.
- The Annual Catalogues of the College and the several Professional Schools of the University; the Announcements of the several Departments; etc., etc.